Appendix F

Proposed Rule for the Incidental Take of Small Numbers of Florida Manatees (*Trichechus manatus latirostris*) Resulting from Government Programs Related to Watercraft Access and Watercraft Operation in the State of Florida

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 18

RIN 1018-AH86

Marine Mammals; Incidental Take During Specified Activities

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule; notice of availability.

SUMMARY: We, the Fish and Wildlife Service, are proposing regulations that would authorize for the next five years the incidental, unintentional take of small numbers of Florida manatees (Trichechus manatus latirostris) resulting from government activities related to watercraft and watercraft access facilities within three regions of Florida.

Under the provisions of the Marine Mammal Protection Act (MMPA), the Secretary of the Department of the Interior may authorize the incidental taking of small numbers of marine mammals in a specified geographic area if the Secretary finds, based on the best scientific evidence available, that the total taking for the authorized period will have no more than a negligible impact on the species or stock. If this finding is made, specific regulations will be established for the activities that describe permissible methods of taking; means of effecting the least practicable adverse impact on the species and its habitat; and requirements for monitoring and reporting. If the Secretary cannot make a finding that the total taking will have a negligible impact on the species or stock, the Secretary must publish the negative finding in the Federal Register along with the basis for such determination.

We have defined the specified geographic area for this proposed rule to be the species' range within the State of Florida. Long-term studies suggest four regional populations of manatees in Florida--Northwest, Upper St. Johns River (from Palatka south), Atlantic (including the St. Johns River north of Palatka), and Southwest. Through this rule, we have defined these populations as stocks. We are proposing a finding that the total expected takings of Florida manatee resulting from government activities related to watercraft and watercraft access facilities would have a negligible impact in the Upper St. Johns River and Northwest stocks and a negligible impact with the implementation of additional mitigating measures on the Atlantic Stock. For the Southwest Stock, the best available information indicates that these activities would have more than a negligible impact on the Stock and, therefore, we are not proposing to authorize incidental take for this Stock (i.e., a negative finding). We also announce the availability of a draft environmental impact statement for this action.

DATES: We will consider comments on both the proposed rule and the draft environmental impact statement that are received by [insert date 60 days after date of publication in the Federal Register].

We will hold six public hearings as follows: on December 2, 2002, in Ft. Myers; on December 3, 2002, in Tampa; on December 4, 2002, in Melbourne; on December 5, 2002, in Daytona Beach; on December 9, 2002, in Palatka; and on December 10, 2002, in Gainesville. All hearings will run from 6 p.m. to 9 p.m. We will hold additional public hearings if requested.

Persons needing reasonable accommodations in order to attend and participate in the public hearing should contact Chuck Underwood of the Jacksonville Field Office (see ADDRESSES section) as soon as possible. In order to allow sufficient time to process requests, please call no later than one week before the hearing.

ADDRESSES: If you wish to comment, you may submit your comments by any one of the following methods:

1. You may submit written comments and information to the Field Supervisor, Jacksonville Field Office, U.S. Fish and Wildlife Service, 6620 Southpoint Drive South, Suite 310, Jacksonville, Florida 32216.

2. You may hand deliver written comments to our Jacksonville Field Office, at the above address, or fax your comments to 904/232-2404.

3. You may send comments by electronic mail (e-mail) to manatee@fws.gov. For directions on how to submit electronic comment files, see the "Public Comments Solicited" section.

We request that you identify whether you are commenting on the proposed rule or draft environmental impact statement. Comments and materials received, as well as supporting documentation used in the preparation of this proposed rule, will be available for public inspection, by appointment, during normal business hours from 8 a.m. to 4:30 p.m. Monday through Friday, at the above address. You may obtain copies of the draft environmental impact statement from the above address or by calling 904/232-2580, or from our website at http://northflorida.fws.gov. Information regarding this proposal is available in alternative formats upon request.

The public hearings will be held at the following locations:
1. Harborside Convention Hall, 1375 Monroe St., Ft. Myers;
2. Holiday Inn & Conference Center, 4732 N. Dale Mabry Hwy, Tampa;
3. Radisson Hotel & Conference Center, 3101 N. Highway A1A, Melbourne;
4. Daytona Beach Resort & Conference Center, 2700 N. Atlantic Ave., Daytona Beach;
5. Holiday Inn, 201 N. 1st St., Palatka; and,

6. Doubletree University Florida Hotel & Conference Center, 1714 SW 34th St., Gainesville.

FOR FURTHER INFORMATION CONTACT: Pete Benjamin, Assistant Field Supervisor (see ADDRESSES section), telephone 904/232-2580; or visit our web site at http://northflorida.fws.gov.

SUPPLEMENTARY INFORMATION:

Background

The Marine Mammal Protection Act (MMPA) of 1972 (16 U.S.C. 1361-1407) sets a general moratorium, with certain exceptions, on the taking and importation of marine mammals and marine mammal products and makes it unlawful for any person to take, possess, transport, purchase, sell, export, or offer to purchase, sell, or export, any marine mammal or marine mammal product unless authorized. "Take" as defined by the MMPA and its implementing regulations (50 CFR Part 18) means "to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal, including, without limitation, any of the following--the collection of dead animals or parts thereof; the restraint or detention of a marine mammal, no matter how temporary; tagging a marine mammal; or the negligent or intentional operation of an aircraft or vessel, or the doing of any other negligent or intentional act which results in the disturbing or molesting of a marine mammal."

"Harassment" is defined under the MMPA as, "any act of pursuit, torment, or annoyance which--(i) has the potential to injure a marine mammal or marine mammal stock in the wild; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering."

The prohibitions on take apply to all persons, including Federal, State, and local government agencies with the exception of humane taking (including euthanasia) by government officials while engaged in their official duties, if such taking is (1) for the protection or welfare of a marine mammal; (2) for the protection of the public health and welfare; or (3) the non-lethal removal of nuisance animals. When feasible, steps designed to ensure return of such animals to their natural habitat, if not killed in the course of such taking, must be implemented (16 U.S.C. 1379(h)).

Section 101(a)(5)(A) of the MMPA allows the Secretary of the Department of the Interior, through the Director of the Fish and Wildlife Service (Service), upon request, to authorize by specific regulation the incidental, unintentional take of a small number of marine mammals by U.S. citizens engaged in specific identified activities (other than commercial fishing) within specific geographic areas. This is the mechanism by which incidental, but not intentional, take of small numbers of marine mammals may be authorized in accordance with

Federal law for activities other than commercial fishing if certain findings are made and regulations are enacted pursuant to 50 CFR 18.27. The Director must find that the total of such taking during the specified time period (which cannot be more than five consecutive years) will have no more than a negligible impact on the species or stock and will not have an unmitigable impact on the availability of such species or stock for subsistence uses. The subsistence provision is not applicable to Florida manatees.

The regulations implementing the MMPA define "negligible impact" as, "an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival" (50 CFR 18.27(c)). If such findings are made, we would then establish specific regulations identifying permissible methods of taking by such activity, means of effecting the least practicable adverse impact on the species or stock and its habitat, and requirements for monitoring and reporting such taking. If a finding cannot be made that the total taking will have a negligible impact on the species or stock, the "negative finding" and the basis for denying the request for the incidental take must be published in the Federal Register (50 CFR 18.27(d)(4)).

Following issuance of incidental take regulations, U.S. citizens (including government agencies) who engage in the specified activities in the specified area could apply for a Letter of Authorization (LOA), which, if granted, would authorize incidental take associated with the applicant's activities. In return for committing to specific measures that minimize the applicant's impact on the species or stock and ensure that the total taking remains at the negligible level, the applicant receives authorization for any remaining take that occurs and that would otherwise be unlawful under the MMPA. General procedures for obtaining an LOA are described at 50 CFR 18.27(f).

Summary of Request

The Florida Manatee Recovery Plan, Third Revision (U.S. Fish and Wildlife Service 2001), states that the largest known human-related cause of manatee deaths is collisions with watercraft. Between 1976 and 2000, the total number of carcasses (i.e., deaths due to all causes) collected has increased at a rate of 6.0 percent per year. Between 1976 and 2002 deaths attributed to watercraft increased by 7.3 percent per year (Florida Marine Research Institute 2002). In 2000 and 2001, watercraft-related deaths accounted for at least 29 percent and 25 percent, respectively, of the total number of known manatee deaths. During the past five years (1997 to 2001) watercraft-related deaths have been the highest on record ranging from 52 to 82 per year.

In the State of Florida, government agencies (including Federal, State, and local agencies) engage in a variety of activities related to watercraft that may affect manatees, positively or negatively. Many of these activities relate to the use and regulation of watercraft operated in Florida waters accessible to manatees, including--(1) regulating watercraft operation (e.g., regulation of marine events); (2) authorizing construction of watercraft access facilities (marinas,

docks, boat ramps, etc.); (3) funding construction of watercraft access facilities; (4) operating watercraft access facilities; and (5) operating watercraft. To date, there are no regulations under the MMPA to authorize the incidental, unintentional death, injury, or harassment of manatees caused by these otherwise legal activities.

We, the U.S. Fish and Wildlife Service, engage in, or have the authority to engage in, each of the above five categories of activities; therefore, our activities could result in the incidental, unintentional take of manatees. As such, we initiated the development of incidental take regulations for our own activities related to watercraft in Florida. Other Federal agencies also engage in some or all of these activities, as do a variety of State and local agencies. We have encouraged other Federal and State agencies involved in these same types of activities to join us in our rulemaking process as a means to coordinate Federal, State, and local measures that would reduce the taking of manatees by watercraft; develop additional protective measures; and insulate partner agencies against liability for take through the authorization process. The U.S. Coast Guard, National Park Service, and U.S. Army Corps of Engineers have agreed to join us in this rulemaking process.

Specified Activities

Only activities of government agencies related to watercraft and watercraft access facilities are considered within the scope of this rule. While it is our view that the operation of watercraft is the most important factor influencing watercraft/manatee interactions (see "Watercraft-Related Impacts to the Florida Manatee" section below), virtually all aspects of watercraft operation and access are regulated by Federal, State, and/or local government agencies. As such, those government agencies who hold a Letter of Authorization will have protection from liability for take associated with these activities. Liability protection afforded under these regulations would also extend to individual non-governmental operators of watercraft and watercraft access facilities who are authorized or regulated by a Federal, State, or local government agency holding a Letter of Authorization, provided (1) the government authorization or regulation is implemented in accordance with the Letter of Authorization; and (2) the individual is in compliance with the terms of the agency authorization or regulation. For example, by issuing a Letter of Authorization to an agency that permits the construction of watercraft access facilities, entities receiving such permits would be covered under the agency's Letter of Authorization.

The following five categories of activities were considered in the scope of this rulemaking evaluation as watercraft-related activities of government agencies that could cause the incidental take of manatees, including mortality, injury, and harassment. Activities of government agencies that have the potential to reduce watercraft-related take of manatees are described below under "Mitigating Measures."

1. Regulating the operation of watercraft on Florida waters--This category of activity includes government programs responsible for the establishment of watercraft speed zones and

restricted access areas. Local, State, and Federal agencies establish speed zones and restricted access areas in order to reduce watercraft-related take of manatees by slowing watercraft speeds or prohibiting waterborne activities in areas of importance to manatees such as aggregation areas, travel corridors, feeding areas, resting areas, calving areas, and other areas where manatees occur. The establishment of such areas does not cause or contribute to take. However, to the extent that agencies exempt, except, permit, or otherwise allow prohibited activities to occur in such areas, such authorization may cause or contribute to the incidental take of manatees.

This category also includes government programs (e.g., State/local registration, U.S. Coast Guard vessel documentation) that register watercraft for operation in waters inhabited by manatees. This activity may cause or contribute to incidental take of manatees to the extent that watercraft which are not properly registered are not authorized to operate on Florida waters. Finally, this category includes the authorization and regulation of marine events (e.g., high-speed races, parades, etc.) in Florida waters inhabited by manatees. Such events, particularly events that involve high-speed watercraft operation, have the potential to cause or contribute to the incidental take of manatees.

2. Authorizing construction of watercraft access facilities (e.g., boat ramps, docks, and marinas) that provide watercraft access to waters inhabited by manatees--This category of activity includes government programs that regulate the location and construction of watercraft access facilities including boat ramps, marinas, private and public docks, and other such structures that provide watercraft access to waters inhabited by manatees. Construction of watercraft access facilities is authorized by local, State, and Federal agencies. At the local level, construction of watercraft access facilities is regulated primarily through zoning ordinances. Several Florida counties have adopted Manatee Protection Plans (MPP) which include facility siting plans. Facility siting plans generally identify areas within a county where construction of additional watercraft access facilities are encouraged or discouraged, or define criteria for assessing the suitability of sites for construction of new facilities. County MPPs must be approved by the Florida Fish and Wildlife Conservation Commission (FWC). Upon approval, the facility siting plans must be incorporated into the County's comprehensive plan.

At the State level, construction of watercraft access facilities is regulated by the Florida Department of Environmental Protection and the water management districts pursuant to the State's Environmental Resource Permit Procedures (62-343 Florida Administrative Code [F.A.C.]). Permit applications received by the State regulatory agencies are also reviewed by the FWC, Bureau of Protected Species Management (BPSM), which uses the FWC Manatee Environmental Resource Permit Coordination Guidance, and provides an environmental assessment of potential adverse impacts to manatees from regulated activities.

At the Federal level, construction of watercraft access facilities is regulated by the Army Corps of Engineers (Corps) through section 404 of the Clean Water Act of 1972 and section 10 of the Rivers and Harbors Act of 1899. Section 7 of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.), as amended, requires the Corps to assess the effects of any facility

under their review on federally listed species and consult with us or the National Marine Fisheries Service (NOAA-Fisheries), as appropriate, if they determine that the facility in question may affect listed species or their designated critical habitat. The Corps utilizes a decision-making key developed in cooperation with us to assist in determining whether a proposed project may affect manatees. If potential adverse effects to manatees or manatee habitat are identified, the permit can be specifically conditioned to avoid the adverse impacts, or where appropriate, denied. Typical permit conditions include limitations on the number of slips, and avoidance or minimization of impacts to sea grasses. Additionally, standard manatee construction conditions have been developed that are utilized by the Corps as well as State regulatory agencies to minimize the effects of watercraft access facilities on manatees and manatee habitat.

3. Funding construction of watercraft access facilities that provides watercraft access to waters inhabited by manatees--In addition to authorizing construction of watercraft access facilities, many local, State, and Federal agencies fund their construction. The effects of funding construction of watercraft access facilities are the same as those described for permitting construction of watercraft access facilities.

4. Operating facilities that provide watercraft access to waters inhabited by manatees--Many government agencies operate watercraft access facilities. Operation includes any act of owning, maintaining, or directly or indirectly controlling who has access to waters inhabited by manatees through use of any watercraft access facility.

5. Operating government-owned watercraft in Florida waters accessible to manatees for official government business other than that covered under section 109(h) of the MMPA--Many government agencies own and operate watercraft. Incidental take directly related to the protection of manatees is covered under the exemption provided under section 109(h) of the MMPA. Other government watercraft activities require authorization under the MMPA like that of private watercraft operators.

Other human activities cause the incidental take of manatees including, but not limited to, the operation of locks and water control structures, port operations, naval and other military activities, the operation of industrial warm-water outfalls, commercial and recreational fisheries, implementation of projects that affect the quality and quantity of water flow from warm water springs, and the implementation of water manipulation projects that affect the distribution, timing, quality, and quantity of waterflow in manatee habitat. These activities are outside of the scope considered in this evaluation, but may be subject to the future publication of rules.

Specified Geographic Region

While the summer range of the Florida manatee extends beyond Florida, the entire natural winter range is within Florida where the majority of watercraft-related incidental take occurs. The effective control of watercraft-related incidental take depends on actions of the operators of watercraft and government agencies in Florida. Therefore, the specific geographic area

considered for coverage by this regulation was limited to those waters within the State of Florida that are accessible to manatees. Separate regulations for government activities in other geographic areas outside of the State of Florida may be considered under subsequent rulemakings, if requested.

Long-term studies suggest four regional populations of manatees in Florida--(a) the Northwest Region, consisting of the counties along the Gulf of Mexico from Escambia County east and south to Hernando, Lafayette, and Gilchrist counties, and Marion County adjacent to the Withlacoochee River; (b) the Upper St. Johns River Region, consisting of Putnam County from Palatka south, Volusia, Flagler, and Marion counties adjacent to the St. Johns River or its tributaries, and Lake and Seminole counties; (c) the Atlantic Region, consisting of counties along the Atlantic coast from Nassau County south to Miami-Dade County, the portion of Monroe County adjacent to the Florida Bay and the Florida Keys, Okeechobee County, and counties along the lower portion of the St. Johns River north of Palatka, which includes Putnam, St. Johns, Clay, and Duval counties; and (d) the Southwest Region, consisting of the counties along the Gulf of Mexico from Pasco County south to Whitewater Bay in Monroe County and DeSoto, Glades, and Hendry counties.

These divisions are based primarily on documented manatee use of wintering sites and from radio-tracking studies of individuals' movements. Radio-tracking studies (Bengtson 1981) and other information (U.S. Fish and Wildlife Service 2001, Marine Mammal Commission [MMC] 1988) suggest that most manatees wintering at Blue Spring tend to remain in the area identified as the Upper St. Johns River Region. The manatees of this region comprise approximately four percent of the total Florida manatee population. The lower St. Johns River, the Atlantic coast, and the Florida Keys are considered to represent the Atlantic Region, based on the results of long-term radio tracking and photo-identification studies (Beck and Reid 1995, Reid et al. 1995, Deutsch et al. 1998). The manatees of this region comprise approximately 42 percent of the total Florida manatee population.

On the west coast, Rathbun et al. (1995) reported that, of 269 recognizable manatees identified at the Kings Bay and Homosassa River warm-water refuges in northwest Florida between 1978 and 1991, 93 percent of the females and 87 percent of the males returned to the same refuge each year. Radio-tracking results suggest that many animals wintering at Crystal River disperse north in warm seasons to rivers along the Big Bend coast, particularly the Suwannee River (Rathbun et al. 1990). The manatees of this region comprise approximately 12 percent of the total Florida manatee population. The existence of more or less distinct subgroups in the southwestern area of Florida (i.e., from Tampa Bay south) is not clear. It is possible that manatees using warm-water refuges in Tampa Bay, the Caloosahatchee River, and Collier County may be somewhat discrete groups; however, the best available data before us and the Florida Manatee Recovery Team indicated that we should identify them as one group. The manatees of this region comprise approximately 42 percent of the total Florida manatee population.

Although some movement occurs among regional populations, researchers found that analysis of manatee status on a regional level provided significant insights into important factors related to manatee recovery, such as winter aggregation areas, manatee movement patterns, and human interactions (U.S. Fish and Wildlife Service 2001). This led the Florida Manatee Recovery Team and the Service to establish objective and measurable recovery criteria for the four regions based upon demographic benchmarks for certain aspects of manatee life history--adult survival, reproduction, and population growth-- in the Florida Manatee Recovery Plan.

Based on available information, we have concluded that these regions meet the criteria for classification as separate stocks under the MMPA. The guidelines for assessing marine mammal stocks (Barlow et al. 1995) advise a risk-averse strategy when determining stock structure. The guidelines advise that this requires starting with a definition of stocks based on the smallest groupings that are biologically reasonable and are practical from a management perspective. Biological evidence indicates considerable demographic differences among the four regions. For example, based on recent analysis (Langtimm et al. 2002) estimates of adult survival rates vary among regions; ranging from a high of 96.2 (95 percent confidence interval (CI) that ranges from 95.3 to 97.2) in the Northwest Region to a low of 90.6 (95 percent CI 86.7 to 94.4) in the Southwest Region. Adult survival in the Atlantic Region is estimated to be 94.3 percent (95 percent CI 92.3 to 96.2), and adult survival in the Upper St. Johns River Region is 96.1 (95 percent CI 90.0 to 98.5). Similarly, estimates of population growth rates vary among regions. According to a recent analysis by Runge et al. (2002 unpubl. analysis), the growth rate is estimated to be highest in the Upper St. Johns River Region at 6.1 percent per year (95 percent CI 1.7 to 8.7), followed by the Northwest Region (5.0 percent growth per year; 95 percent CI 3.2 to 6.8), and the Atlantic Region (3.2 percent growth per year; 95 percent CI 0.3 to 5.7). Growth rate has not been calculated for the Southwest Region, although it is thought that the population is declining or is, at best, stable.

As noted above, available evidence indicates that there is relatively little movement of manatees among the regions. The highest dispersal rate assumed by the FWC for the purposes of their recent population viability analysis (PVA) (see "The Status of the Florida Manatee" section) was two percent per year between the Upper St. Johns River Region and the Atlantic Region (Florida Marine Research Institute 2002). The FWC assumed that dispersal rates among the other regions did not exceed 0.5 percent per year. This indicates that dispersal from regions in which the population is likely growing (e.g., the Northwest Region) is likely not sufficient to compensate for high levels of human-related mortality in other regions (e.g., the Southwest Region). The stock assessment guidelines warn that managing areas with differential levels of take as a single stock can lead to depletion (Wade and Angliss 1997).

The threats facing manatees also vary among regions. For example, the number of watercraft-related deaths has been reported (U.S. Fish and Wildlife Service 2001) as increasing at a rate of 10.8 percent per year in the Northwest Region between 1980 and 1999; although the number of manatees killed by watercraft in this region over that period was low (N=32). Conversely, watercraft-related deaths in the Southwest Region increased at a rate of 7.1 percent

per year during the same period, and a far greater number of manatees were killed (N=331). The disproportionate amounts of incidental take in the Southwest and Atlantic regions supports the definition of separate stocks. Additionally, manatees in the Southwest Region are more vulnerable to red tide than in other regions, and manatees in the Atlantic and Southwest regions are more dependent on man-made warm water sources than are manatees in the Upper St. Johns River and Northwest regions (U.S. Fish and Wildlife Service 2001). Addressing these threats necessitates application of different management approaches in each region. This further supports the definition of these as separate stocks.

Based on the preceding analysis, we conclude that the four regions identified in the Florida Manatee Recovery Plan meet the criteria for designation as separate stocks under the MMPA. We intend to use this determination in the next revision of the Stock Assessment Report for the West Indian Manatee, and for the remainder of this document we will refer to the regions as the Northwest Stock, Upper St. Johns River Stock, Atlantic Stock, and Southwest Stock. Ideally, we would have preferred to review and revise the Stock Assessment Report prior to this rulemaking; however, settlement obligations precluded our ability to do this.

We have determined that these stocks, under the MMPA, do not meet the criteria for designation as Discrete Population Segments pursuant to the ESA, and as such it would not be possible or appropriate for us to consider reclassification of the stocks separately under the ESA.

Summary of Proposed Rule

We are proposing regulations to allow the incidental, unintentional take of Florida manatee within the Northwest, Upper St. Johns River, and Atlantic stocks in Florida. The regulations would be in effect year-round from the date of enactment for a period of five years for government activities related to the operation of watercraft and watercraft access facilities. The proposed regulations would not authorize the intentional harassment, hunting, capturing, or killing of Florida manatee. These regulations do not permit the actual activities associated with use and regulation of watercraft and watercraft access facilities in Florida waters, but rather allow the incidental, unintentional take of the Florida manatee resulting from these otherwise lawful activities. We are not proposing to authorize incidental take of manatees from the Southwest Stock at this time. However, we will continue to monitor the status of the Southwest Stock, and will propose incidental take regulations as soon as available information indicates that watercraft-related incidental take in this region is having no more than a negligible impact on the Southwest Stock, or could be reduced to the negligible impact level with implementation of mitigating measures.

The proposed regulations include requirements for monitoring and reporting, and measures to reduce adverse impacts on the Florida manatee and its habitat to the maximum extent practicable. The regulations are based on the finding that the authorization and regulation of watercraft and watercraft access facilities in Florida may result in the taking of Florida manatee. We find that with the continued and/or additional implementation of the mitigating

measures described in this proposed rule, the total impact of the takings in three of the four stocks will have a negligible impact on these stocks.

After establishing these regulations, in order to implement the regulations and for a person or agency to receive the protections offered by the MMPA, government agencies that engage in the specified activities would need to apply for and obtain an LOA. The process for requesting an LOA is described in the "Proposed LOA Process" section of this proposed rule.

The Status of the Florida Manatee

In the southeastern United States, manatees occur primarily in Florida and southeastern Georgia, but individuals can range as far north as Rhode Island on the Atlantic coast (U.S. Fish and Wildlife Service 2001), and as far west as Texas on the Gulf coast. During the winter, cold temperatures keep the population concentrated in peninsular Florida and many manatees rely on the warm water from natural springs and power plant outfalls. We have divided this population into four stocks as explained above.

Research in the early 1980s indicated to scientists that development of a means of estimating or monitoring trends in the size of the overall manatee population in the southeastern United States would be difficult (O'Shea 1988, O'Shea et al. 1992, Lefebvre et al. 1995). Even though many manatees aggregate at warm-water refuges in winter and most if not all such refuges are known, direct counting methods (i.e., by aerial and ground surveys) have been unable to account for the number of animals that may be away from these refuges, are not seen because of turbid water, or for other factors. The use of mark-resighting techniques to estimate manatee population size based on known animals in the manatee photo-identification database also has been impractical, as the proportion of unmarked manatees has not been estimated.

The only data on population size have been uncalibrated indices based on maximum counts of animals at winter refuges made within one or two days of each other. Based on such information in the late 1980s, the total number of manatees throughout Florida was indicated to be at least 1,200 animals (U.S. Fish and Wildlife Service 2001). Because aerial and ground counts at winter refuges are variable because of the weather, water clarity, manatee behavior, and other factors (Packard et al. 1985, Lefebvre et al. 1995), interpretation of analyses for short-lived trends is difficult (Packard and Mulholland 1983, Garrott et al. 1994). Strip-transect aerial surveys are used routinely to estimate dugong (Dugong dugon) population size and trends (U.S. Fish and Wildlife Service 2001); however, these surveys do not adapt to manatees because of their more linear (i.e., coastal and riverine) distribution. This survey method was tested in the Banana River, Brevard County, and recommended for use in that area to monitor manatee population trends (Miller et al. 1998). This approach may also have utility in the Ten Thousand Islands-Everglades area, where manatee population size and distribution is poorly understood.

Beginning in 1991, the former Florida Department of Natural Resources (FDNR) initiated a statewide aerial survey program to count manatees in potential winter habitat during periods of

severe cold weather (Ackerman 1995). These surveys are more comprehensive than those used to estimate a minimum population during the 1980s. The highest two-day minimum count of manatees from these winter synoptic aerial surveys and ground counts is 3,276 manatees in January 2001; the highest count on the east coast of Florida is 1,756, and the highest on the west coast is 1,520, both in 2001. However, the manatee counts of March 2002, when weather conditions were less favorable, resulted in a total count of 1,796. The FWC stated in their March 6, 2002, press release that the "low count merely reflects the poor visibility during the count, not a dramatic change in the manatee population." Due to the nearly ideal conditions for the 2001 synoptic survey, the results of that survey are considered the best available estimate of the current minimum population size (i.e., 3,276).

It remains unknown what proportions of the total manatee population were counted in these surveys. No statewide surveys were done during the winters of 1992-93 or 1993-94 because of the lack of strong mid-winter cold fronts. These uncorrected counts do not provide a basis for assessing population trends. However, trend analyses of temperature-adjusted aerial survey counts show promise for providing insight to general patterns of population growth in some regions (Garrott et al. 1994, 1995, Craig et al. 1997, Eberhardt et al. 1999).

It has been possible to monitor the number of manatees using the Blue Spring and Crystal River warm-water refuges. At Blue Spring, with its unique combination of clear water and a confined spring area, it has been possible to count the number of resident animals by identifying individual manatees from scar patterns. The data indicate that this group of animals has increased steadily since the early 1970s when it was first studied. During the 1970s the number of manatees using the spring increased from 11 to 25 (Bengtson 1981). In the mid-1980s about 50 manatees used the spring (U.S. Fish and Wildlife Service 2001), and by the winter of 1999-2000, the number had increased to 147 (Hartley 2001).

On the northwest coast of Florida, the clear, shallow waters of Kings Bay have made it possible to monitor the number of manatees using the warm-water refuge in Kings Bay at the head of the Crystal River. Large aggregations of manatees apparently did not exist there until recent times (U.S. Fish and Wildlife Service 2001). The first counts were made in the late 1960s, when 38 animals were counted in King Bay during the winter of 1967/1968 (Hartman 1979). By the winter of 1981/1982, the maximum winter count had increased to 114 manatees (Powell and Rathbun 1984), and in December 1997, the maximum count was 284 (Buckingham et al. 1999). Both births and immigration of animals from other areas have contributed to the increases in manatee numbers at Crystal River and Blue Spring. The increases in counts at Blue Spring and Crystal River are accompanied by estimates of adult survival and population growth that are higher than those determined for the Atlantic coast (Eberhardt and O'Shea 1995, Langtimm et al. 1998, Eberhardt et al. 1999).

While aircraft synoptic surveys provide a "best estimate" of the minimum manatee population size, there are no estimates or confidence intervals for the size of the Florida manatee population that have been derived by reliable, statistically based, population-estimation

techniques. A census is a complete count of individuals within a specified area and time period. A survey, in contrast, is an incomplete count. With the exception of a few places where manatees may aggregate in clear, shallow water, not all manatees can be seen from aircraft because of water turbidity, depth, surface conditions, variable times spent submerged, and other considerations. Thus, results obtained during typical manatee synoptic surveys yield partial counts. While these results are of value in providing information on where manatees occur, likely relative abundance in various areas, and seasonal shifts in manatee abundance, they do not provide good population estimates, nor can they reliably measure trends in the manatee population. Consequently, the Florida Manatee Recovery Plan concludes-- "Despite considerable effort in the early 1980s, scientists have been unable to develop a useful means of estimating or monitoring trends in size of the overall manatee populations in the southeastern United States" (U.S. Fish and Wildlife Service 2001).

Population models employ mathematical relationships based on survival and reproduction rates to calculate population growth and trends in growth. A deterministic model (a model in which there are no random events) using classical mathematical approaches and various computational procedures with data on reproduction and survival of living, identifiable manatees suggests a maximum growth rate of about seven percent per year, excluding emigration or immigration (Eberhardt and O'Shea 1995). This maximum was based on studies conducted between the late 1970s and early 1990s in the protected winter aggregation area at Crystal River and did not require estimates of population size. The analysis showed that the chief factor affecting the potential for population growth is survival of adults.

Estimated adult survival in the Atlantic Region has suggested a slower rate or no population growth over a similar period, compared to the Upper St. Johns River and Northwest regions. This modeling shows the value of using survival and reproduction data obtained from photo-identification studies of living manatees to compute population growth rates with confidence intervals, providing information which can be used to infer long-term trends in the absence of reliable population size estimates. However, collection of similar data has been initiated only recently for other areas of Florida (notably from Tampa Bay to the Caloosahatchee River beginning in the mid-1990s), and none is available over much of the remaining areas used by manatees in southwestern Florida.

A PVA is a stochastic modeling approach (i.e., a model in which random events, such as red tide and extremely cold winters, are incorporated), which varies potential scenarios influencing reproduction and survival over long periods, and predicts responses in population growth. A PVA was carried out for manatees based on age-specific mortality rates computed from the age distribution of manatees found dead throughout Florida from 1979 through 1992 (Marmontel et al. 1997). This method of computing survival rests on certain assumptions that were not fully testable; yet, results point out the importance of adult survival to population persistence.

Given population sizes that may reflect current abundance, the PVA showed that if adult

mortality as estimated for the study period were reduced by a modest amount (e.g., from 11 percent down to nine percent), the Florida manatee population would likely remain viable for many years. However, the PVA also showed that slight increases in adult mortality would result in extinction of manatees over the long term.

The above review demonstrates that the basis for statewide population size "estimates" of any kind, based on current survey methods, cannot be used for computing population trends in manatees. The weight of scientific evidence suggests that the potential for population increases over the last two decades is strong for two protected aggregation areas. New population analyses, based on more recent (since 1992) information, are not yet available in the peer-reviewed literature. These analyses will be fundamental to management decisions that are more relevant today.

The most significant problem presently faced by manatees in Florida is death or serious injury from boat strikes. An additional long-term threat is the lack of availability of warm-water refuges. The availability of warm-water refuges for manatees is uncertain if minimum flows and levels are not established for the natural springs on which many manatees depend, and if industrial warm-water refuges are lost as deregulation of the power industry in Florida occurs. Consequences of an increasing human population and intensive coastal development are also long-term threats to the Florida manatee. Survival of the manatee will depend on maintaining the integrity of the ecosystem and habitat sufficient to support a viable manatee population.

Data on manatee deaths in the southeastern United States have been collected since 1974 (O'Shea et al. 1985, Ackerman et al. 1995, FWC unpubl. data). Data since 1976 were used in the following summary, as carcass collection efforts were more consistent following that year. They indicate a clear increase in manatee deaths over the last 25 years (6.0 percent per year exponential regression between 1976 and 2000; U.S. Fish and Wildlife Service 2001). Most of the increase can be attributed to increases in watercraft-related and perinatal deaths (Marine Mammal Commission 1993). Between 1976 and 2002, watercraft-related deaths increased at an average of 7.3 percent per year (Florida Marine Research Institute 2002). However, it is unclear whether this represents an increase in the overall mortality rate or a proportional increase relative to the overall population of manatees. The reported rate of increase in manatee mortality, and watercraft-related mortality in particular, is greater than the likely rate of population increase reported by Runge et al. (2002).

Natural causes of death include disease, parasitism, reproductive complications, and other non-human-related injuries, as well as occasional exposure to cold and red tide (O'Shea et al. 1985, Ackerman et al. 1995). These natural causes of death accounted for 17 percent of all deaths between 1976 and 2000 (FWC, unpublished data). Perinatal deaths accounted for 21 percent of all deaths in the same period. Human-related causes of death include watercraft collisions, manatees crushed in water control structures and navigational locks, and a variety of less-common causes. Human-related causes of death accounted for at least 31 percent of deaths between 1976 and 2000. Cause of death of some individuals could not be determined because of

advanced decomposition, the cause was forensically undeterminable, or the carcass was not recovered. These carcasses were classified as undetermined, and accounted for 30 percent of deaths between 1976 and 2000.

A natural cause of death in some years is exposure to cold. Following a severe winter cold spell at the end of 1989, at least 46 manatee carcasses were recovered in 1990; the cause of death for each was attributed to cold stress. Exposure to cold is believed to have caused many deaths in the winters of 1977, 1981, 1984, 1990, and 2001 and has been documented as early as the 19th century (Ackerman et al. 1995, O'Shea et al. 1985, FWC, unpubl. data).

In 1982, a large number of manatees also died during an outbreak of the red tide dinoflagellate (Gymnodinium breve) between February and March in Lee County, Florida (O'Shea et al. 1991). At least 37 manatees died, perhaps in part due to incidental ingestion of filter-feeding tunicates that had accumulated the neurotoxin-producing dinoflagellates responsible for causing red tide. In 1996, from March to May, at least 145 manatees died in a red tide outbreak over a larger area of southwest Florida (Bossart et al. 1998, Landsberg and Steidinger 1998). Although the exact mechanism of manatee exposure to the red tide brevetoxin is unknown in the 1982 and 1996 outbreaks, ingestion, inhalation, or both are suspected (Bossart et al. 1998). The critical circumstances contributing to high red tide-related deaths are concentration and distribution of the red tide, timing and scale of manatee aggregations, salinity, and timing and persistence of the bloom (Landsberg and Steidinger 1998). It is difficult to manage for these rare but catastrophic causes of mortality.

Perinatal deaths are carcasses of manatees less than 59 inches long (O'Shea et al. 1995). Some are aborted fetuses; others are stillborn or die of natural causes within a few days of birth. Some may die from disease, reproductive complications, and/or congenital abnormalities. The cause of many perinatal deaths is difficult to determine, because these carcasses are generally in an advanced state of decomposition at the time they are retrieved. Most perinatal deaths appear to be due to natural causes; however, watercraft-related injuries or disturbance, or other human-related factors affecting pregnant and nursing mothers also may be responsible for a significant number of perinatal deaths. It has also been suggested that some may die from harassment by adult male manatees (O'Shea and Hartley 1995). Between 1976 and 1999, perinatal deaths increased at an average of 8.8 percent per year, increasing from 14 percent of all deaths between 1976 and 1980, to 22 percent between 1992 and 2000 (Ackerman et al. 1995, FWC unpubl. data).

The largest known cause of human-related manatee deaths is collisions with watercraft. The next largest human-related cause of deaths is entrapment or crushing in water control structures and navigational locks, which accounted for four percent of total mortality between 1976 and 2000 (Ackerman et al. 1995, FWC unpubl. data). These deaths were first recognized in the 1970s (Odell and Reynolds 1979), and steps have been taken to eliminate this source of death. Other known causes of human-related manatee deaths include poaching and vandalism, entanglement in shrimp nets and monofilament line (and other fishing gear), entrapment in

culverts and pipes, and ingestion of debris. These accounted for three percent of the total mortality from 1976 to 2000.

In 2001, the Manatee Population Status Working Group (MPSWG) provided a statement summarizing what they believed to be the status of the Florida manatee at that time (U.S. Fish and Wildlife Service 2001). The MPSWG stated, that for the Northwest and Upper St. Johns River regions, available evidence indicated that there had been a steady increase in animals over the last 25 years. Such growth was consistent with the conditions of these regions--low numbers of human-related deaths, high estimates of adult survival, and good habitat. The statement was less optimistic for the Atlantic Region due to an adult survival rate that was lower than the rate necessary to sustain population growth. The MPSWG believed that this region had likely been growing slowly in the 1980s but may then have leveled off or even possibly declined. They considered the status of the Atlantic Region to be "too close to call." This finding was consistent with high levels of human-related and, in some years, cold-related deaths in this region. Regarding the Southwest Region, the MPSWG acknowledged that further data collection and analysis would be necessary to provide an assessment of the manatee's status in this region. Preliminary estimates of adult survival available to the MPSWG at that time indicated that the Southwest Region was similar to the Atlantic Region and "substantially lower than [the adult survival estimates] for the Northwest and Upper St. Johns Regions." The Southwest Region was cited as having had high levels of watercraft-related deaths and injuries and natural mortality events (i.e., red tide and severe cold).

Since the above-mentioned assessment by the MPSWG, additional information and analyses have become available. Based on the data provided at the April 2002 Manatee Population Ecology and Management Workshop, we now believe that the Northwest and Upper St. Johns River stocks continue to do well and that these stocks are approaching the demographic benchmarks established in the Florida Manatee Recovery Plan for downlisting and delisting under the ESA. Furthermore, we believe that the Atlantic Stock may be close to meeting the ESA downlisting benchmark for adult survival, at a minimum, and is likely close to meeting or exceeding the other benchmarks. We are less optimistic, however, regarding the Southwest Stock. Although data are still insufficient or lacking to compare the Southwest Stock's status to the ESA downlisting/delisting criteria, preliminary data for adult survival indicate that the Southwest Stock is below the benchmarks established in the Florida Manatee Recovery Plan.

Although we are optimistic about the apparent increases in population in three out of the four stocks, it is important to clarify that, in order to downlist or delist the manatee pursuant to the ESA, all four stocks must simultaneously meet the appropriate criteria as described in the Florida Manatee Recovery Plan. Additionally, any action under the ESA would be based on a status assessment for the species throughout its range and must consider the factors, as described in section 4(a)(1) of the ESA, that determine whether any species meets the definition of endangered or threatened.

Watercraft-Related Impacts to the Florida Manatee

Between 1976 and 2002, watercraft-related mortality accounted for 24 percent of total mortality and increased at an average rate of 7.3 percent per year (Florida Marine Research Institute 2002). From 1996 to 2002, watercraft-related deaths have been the highest on record. Additionally, many living manatees also bear scars or wounds from vessel strikes, indicating that watercraft are also responsible for a substantial amount of harassment of manatees. An analysis of injuries to 406 manatees killed by watercraft and recovered between 1979 and 1991 found that 55 percent were killed by impact, 39 percent were killed by propeller cuts, four percent had both types of injuries, either of which could have been fatal, and unidentified specifics of the collision had caused two percent of the mortalities (Wright et al. 1995). The vast majority of available information regarding the effects of watercraft-related activities on manatees is related to lethal take of manatees. For the purposes of this analysis, we are assuming that activities that result in the lethal take of manatees also have similar levels of sub-lethal effects on manatees and manatee habitat.

Watercraft speed is the primary factor contributing to collisions with manatees. At high speeds, watercraft operators are less able to detect and avoid objects (such as manatees) in the path of the vessel and manatees have less time to detect and avoid the on-coming vessel. Due to these facts, Federal, State, and local officials have sought to limit watercraft speeds in areas where manatees are most likely to occur to afford both manatees and boaters time to avoid collisions. Additionally, the mere presence of watercraft can cause harassment of manatees in certain situations; most notably at warm water aggregation areas, where large numbers of manatees congregate to stay warm during winter months. Disturbance of manatees at these sites can cause manatees to leave the warm water area, exposing them to potentially harmful cold water conditions. To address this threat, State and Federal officials have restricted human access to many important warm water sites during winter months. The establishment of speed zones and restricted access areas do not cause or contribute to incidental take, per se; however, to the extent that agencies exempt, except, permit, or otherwise authorize restricted or prohibited activities to occur in such areas, such authorization may cause or contribute to the incidental take of manatees.

The number of watercraft operating on Florida's waters may also be a factor. The FWC Division of Law Enforcement reported that, in 1999, more than one million vessels used Florida's waterways, including over 829,000 State-registered vessels and about 300,000 out-of-state vessels. Boating continues to increase in Florida as evidenced by just over 943,600 State-registered vessels (FWC 2002a) and more than 400,000 out-of-state vessels for 2001. At the same time, watercraft-related manatee mortality and increasing mortality trends have been documented since collection of manatee mortality data began in 1974. Data regarding causes of manatee deaths, and particularly the increasing number of watercraft-related deaths, should be viewed in the context of Florida's growing human population, which has increased by 130 percent since 1970, from 6.8 to 15.7 million in 2000 (Florida Office of Economic and Demographic Research 2001). The rise in manatee deaths during this period is attributable, in part, to the increasing number of people and watercrafts sharing the same waterways. It should also be noted that the increasing number of deaths could, in part, be due to increasing numbers of

manatees. If existing protection (zones and enforcement) for manatees remains at its current standards, we anticipate that human-caused take will continue to increase to levels that will lead to a declining population in certain portions of the population, which may already be occurring for the Southwest Stock. As noted above, the number of manatee carcasses recovered statewide each year is increasing at a rate that is likely greater than the rate of increase in the manatee population. Continuation of this trend would inevitably lead to a population decline. During the past five years (1997 to 2001), the watercraft-related deaths have been the highest on record with 55, 66, 82, 78 and 81, respectively. This year (2002), watercraft-related mortalities have surpassed 1999 as highest on record.

As noted above, where and how fast watercraft are operated are the most important factors in watercraft-related incidental take of manatees. However, other activities related to operation of watercraft are contributing factors to incidental take. Virtually all watercraft operating in Florida waters gain access to those waters by watercraft access facilities. Construction and operation of such facilities have the potential to affect manatee habitat such as seagrass beds, and construction activities have the potential to harass manatees. Additionally, the availability and location of watercraft access facilities influence the number of watercraft that use any given waterbody, as well as watercraft travel patterns. To the extent that the location and size of a watercraft access facility contributes to increased watercraft access to areas of importance to manatees such as aggregation areas, travel corridors, feeding areas, resting areas, calving areas, and other areas where manatees occur, these facilities can indirectly cause or contribute to the incidental take of manatees by watercraft. Given that over one million watercraft use Florida waters each year, the relative effect of any particular watercraft access facility on watercraft traffic volume or travel is generally small statewide. However, the cumulative effects of constructing many facilities substantially influences the number of watercraft on Florida's waters and the travel patterns of those vessels, which can substantially influence interactions between watercraft and manatees. Additionally, in certain situations the construction of a new watercraft access facility may substantially influence watercraft travel patterns and volume locally. As such, the authorization, funding, and/or operation of watercraft access facilities by government agencies can cause or contribute to incidental take of manatees.

Determination of Negligible Impact

Background

The MMPA states that, "it is the sense of the Congress that [marine mammals] should be protected and encouraged to develop to the greatest extent feasible commensurate with sound principles of resource management and that the primary objective of their management should be to maintain the health and stability of the marine ecosystem." Section 2 of the MMPA also identifies a specific goal of maintaining marine mammal stocks within their Optimum Sustainable Population (OSP) level. However, it is also clear that Congress did not intend that the level of incidental take must in every case be reduced to zero. Section 101(a)(5)(A) clearly indicates that some level of incidental take of even depleted marine mammals can be authorized

as long as the impact is negligible.

In the 1986 amendments to the MMPA, Congress expanded the provisions for the authorization of incidental take of marine mammals related to activities other than commercial fisheries by allowing authorization of take of depleted species as well as non-depleted species. Section 3 of the MMPA defines a "depleted" species as one that is either below its OSP or is listed as endangered or threatened under the ESA. The Florida manatee is listed as an endangered species under the ESA, and therefore, all four stocks are categorized as depleted under the MMPA.

The NOAA-Fisheries and the Service issued final rules implementing the 1986 amendments to the MMPA on September 29, 1989 (54 FR 40338). These regulations define "negligible impact" as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 18.27(c)). The preamble to these regulations described the analytical framework the agencies would use when making negligible impact determinations. For non-depleted stocks (i.e., stocks that are within the range of OSP) the agencies stated that a finding of negligible impact could only be made if the specified activities are not likely to reduce the stock below its OSP. However, it was also noted that not all takings that do not reduce the population below OSP would be considered negligible. The agencies explained that--"healthy marine mammal populations that have reached an equilibrium level usually experience fluctuations in population numbers within some normal range due to a variety of environmental and biological factors. Such fluctuations may involve short-term population declines that do not pose a risk to the stocks remaining within the limits of OSP. We believe that minimal impacts on a healthy stock caused by incidental taking can still be considered negligible if such taking does not cause the population to fluctuate beyond normal limits. In other words, for a population stock that is at its OSP level, slight impacts on the stock resulting from incidental take do not rise to the level of 'adverse effects' on annual rates of recruitment or survival if the population stock is maintained at essentially the same level."

With respect to depleted stocks, the preamble to the 1989 regulations states-- "In order to make a negligible impact finding, the proposed incidental take must not prevent a depleted population from increasing toward its OSP at a biologically acceptable rate." In explaining what would constitute a "biologically acceptable rate" of population increase, the agencies stated that in order to be considered "negligible" the effects of the authorized take must have no significant effect on annual rates of recruitment or survival. The population growth rate for any species is the result of all births during the year (recruitment) minus all deaths (animals that do not survive). As such, to be considered "negligible," authorized incidental take must not affect annual rates of recruitment or survival in such a way as to significantly affect the population growth rate of a depleted stock. The analytical framework made clear that it was not necessary to demonstrate that an authorized level of take would have "no effect" on a stock's rate of increase toward OSP, but only that the take would not significantly affect the long-term population trend.

Methodology

The language of the MMPA and its implementing regulations provide qualitative descriptions of the goals with respect to take of marine mammals. For the purposes of this rulemaking, we translated these goals into standards against which the effects of the specified activity may be measured. The means of making the best use of available scientific information regarding the Florida manatee in our negligible impact determination was discussed at the April 2002 Manatee Population Ecology and Management Workshop. We provided the expert panelists convened at the workshop with background information including a summary of the existing statute and regulations, rulemaking criteria and timeframes, and methods previously considered, and the topic was discussed at a general session of the Workshop. We also presented new information at the April 2002 Workshop regarding the status of the manatee population and the status of manatee research. Additionally, we presented new population models and analyses that showed substantial promise for improving our ability to assess the status of manatee stocks, and to predict and monitor the effects of various factors, including human factors, on manatee populations.

Following the April 2002 Workshop, we held a meeting of scientists from the U.S. Geological Survey (USGS), the Service, and other organizations with specific expertise in population modeling and marine mammals to further clarify the Workshop discussions. Based on our review of the legislative history of the MMPA, its implementing regulations, existing guidance, past incidental take rulemakings, the scientific literature, and the results of the Workshop and the follow-up meeting, we were able to develop a solid conceptual framework upon which to build our negligible impact determination.

In reviewing existing guidance and previous rulemakings, we note that participants at the 1994 Potential Biological Removal (PBR) Workshop (Barlow et al. 1995) agreed that the term "insignificant" in the Zero Mortality Rate Goal for commercial fisheries (as stated in section 101(a)(2) of the MMPA) was relative to the biological significance of the incidental take. They further agreed that an "insignificant" level of mortality was a level that would have a "negligible" impact on a given marine mammal stock. In terms of stocks that are depleted (i.e., population levels below OSP), it is generally accepted that the large majority of annual net productivity must be reserved for the recovery of the stock to its OSP level, and that only a small portion should be allocated for incidental take, so that human-related take does not significantly increase the time needed to reach OSP. Therefore, based on our interpretation of the MMPA, its implementing regulations, previous incidental take rulemakings, and our current understanding of manatee population dynamics, we concluded that in order for us to determine that the allowable level of human-related incidental take would have a "negligible impact" we must be reasonably certain that the take would not significantly increase the time needed to achieve OSP.

For this rulemaking we must ensure that the total taking authorized over the life of the rule has no more than a negligible impact on the stocks through effects on annual rates on recruitment or survival, so the species will continue to increase toward OSP at a biologically

acceptable rate. As such, in order to find that watercraft-related incidental take is having a negligible impact on each manatee stock we must find that:

1. There is reasonable certainty that authorized incidental take will not significantly increase the time needed to reach OSP.

The PBR formula was suggested as an available method for quantitatively making our negligible impact determination for this rule. The PBR formula was included in sections 117 and 118 as part of the 1994 amendments to the MMPA to allow resource managers to conservatively estimate an acceptable amount of human-related incidental take of marine mammals relative to commercial fishing operations. We do not believe it was intended for assessing incidental take relative to the "negligible impact" standard prescribed by the MMPA for activities other than commercial fishing, which was added to the MMPA in 1981. Additionally, the PBR formula is a simplified model that uses limited data and default values that we believe are not appropriate for determining the negligible impact threshold for manatees. There is a relatively large body of data regarding the Florida manatee stocks which is not utilized in the PBR formula. As such, the use of the PBR formula for management decision-making related to manatees would not enable managers to use the best available scientific information.

As stated previously, our negligible impact standard is that there is reasonable certainty that the authorized level of incidental take would not significantly increase the time needed to reach OSP. Determining the OSP level for a species or stock requires an understanding of the carrying capacity of the environment for that species or stock and the maximum net productivity level. These values are currently unknown for the Florida manatee; therefore, we can not directly assess the status of the population relative to OSP, or estimate the amount of time it may take for the population to reach OSP. However, our regulations do not require a formal determination of OSP in order to make a negligible impact finding. Rather, one need only establish that the total take would not "significantly reduce the increase of that population" and would not prevent ultimate achievement of OSP (54 FR 40341).

The Florida Manatee Recovery Plan (U.S. Fish and Wildlife Service 2001) developed quantifiable demographic benchmarks for determining when recovery has been achieved for purposes of the ESA. The demographic benchmarks were based on published estimates of survival, reproduction, and population growth rate. These benchmarks are--(1) statistical confidence (95 percent) that the average annual rate of adult manatee survival is 90 percent or greater; (2) statistical confidence that the average annual percentage of adult female manatees accompanied by first or second year calves in winter is 40 percent or greater; and (3) statistical confidence that the average annual rate of population growth is equal to or greater than zero. The Florida Manatee Recovery Plan states that these benchmarks must be based on estimates from at least a twenty-year data set. Twenty years was thought to encompass approximately two manatee generations, which was deemed to be a sufficient data set to ensure that estimated benchmark rates were reflective of genuine population trends as opposed to short-term fluctuations.

Adult survival is the most influential factor determining manatee population dynamics (Eberhardt and O'Shea 1995, Marmontel et al. 1997, Langtimm et al. 1998). A one percent increase in adult survival rate results in a one percent increase in growth rate; no other life-history parameter has this strong an effect (Eberhardt and O'Shea 1995). While manatee population growth is less sensitive to changes in reproductive rates than adult survival rates (Eberhardt and O'Shea 1995, Marmontel et al. 1997), annual variation in reproductive rates might be greater than annual variation in survival rates, and may reflect demographic pressures not captured by survival rate, so the Manatee Population Status Working Group concluded that reproductive rates are another useful indicator of manatee population status. The population growth rate benchmark was selected to ensure the manatee population continues to increase toward OSP, regardless of any uncertainty regarding the relationship between the other two benchmarks and the overall population trend.

As stated above, it was concluded in the Florida Manatee Recovery Plan that the Florida manatee population could be considered to be "healthy" and able to sustain itself after the demographic benchmarks were met for all four stocks based on at least a 20-year data set. Assuming that none of the stocks were severely depleted when data collection relative to the demographic benchmarks began (in the late 1970s and 1980s), twenty years of continued growth at the benchmark rates would in all likelihood result in stocks that are within or near the range of OSP. As such, we have determined that it is reasonable to assume that achievement of the demographic benchmarks will result in a population that is within or near the range of OSP, and that the negligible impact threshold would be that level of incidental take that does not significantly increase the time needed to achieve the demographic benchmarks.

We examined the current data set and analyses of survival rates, and recruitment, and reviewed population growth rate projections generated by the model presented by Runge et al. at the April 2002 Manatee Population Ecology and Management Workshop (Runge unpubl. analysis), which incorporate the historically observed level of watercraft-related incidental take. This enabled us to qualitatively assess the status of the four stocks relative to the demographic benchmarks, and determine whether anticipated levels of watercraft-related take during the five-year period of the rule are likely to significantly increase the time needed for the stocks to reach OSP. These assessments were based on a twenty year data set including 15 years of historical data and projections (including levels of watercraft-related take) for the five-year period of the rule. For the Southwest population, for which a 15 year historical data set is not available, we made projections based on the available historical data and the long-term trends of the survival rates (which incorporate watercraft-related take), recruitment, and population growth rates of the 15 year period necessary to run our assessment

For each of the stocks, our projected information covered a twenty-year period ending with the five-year period of this rule. Using these projections, we qualitatively assessed the status of the four stocks relative to the demographic benchmarks. As part of this analysis we considered effects of activities that would occur within the five-year period of this rule but that may not manifest themselves until after the five-year period. Due to life history characteristics,

the Florida manatee population may experience a delayed response to changes in mortality rates. Therefore, effects resulting from incidental take may not produce noticeable changes during the five-year period, but could affect the ability of the stock to maintain itself within OSP or affect the rate of increase toward OSP over a longer term. We also assessed the availability and relative effectiveness of various types of mitigating measures.

In addition, separate from this rulemaking process, we are working to ensure that we meet the MMPA's long term goal of maintaining marine mammal populations within OSP. The Florida Fish and Wildlife Conservation Commission (2002b) noted that manatees have a low reproductive rate, low intrinsic population growth rates, low genetic variability, and high vulnerability to stochastic and epizootic events such as extreme cold and red tide. The Florida Marine Research Institute (2002) also noted that long term threats to the Florida manatee related to natural and man-made warm water sites are likely to be felt over the next 50 to 100 years. As such, we have the established standards to measure the stocks' relationship to OSP over the longer term. These objectives are stated as follows:

2. There is reasonable certainty that the manatee stock will remain within OSP for 50 years; and

3. There is reasonable certainty that the manatee stock will remain within OSP for 100 years.

The determinations in this proposed rule are based on our review of the best available data, and we believe this method is adequate for making this negligible impact determination. We believe that it may be possible to refine this analysis based on a modeling effort that is currently being developed. As stated above, in terms of stocks that are depleted (i.e., population levels below OSP), it is generally accepted that the large majority of annual net productivity must be reserved for the recovery of the stock to its OSP level, and that only a small portion should be allocated for incidental take, so that human-related take does not significantly increase the time needed to reach OSP. It is also generally accepted that the "small portion" of net productivity authorized for removal due to human causes should not exceed ten percent of annual net productivity, and that for depleted stocks of marine mammals generally, incidental take should not increase the time needed to reach OSP by more than ten percent (Wade 1994, Wade and Angliss 1997).

The concept of increasing the time needed to achieve OSP by not more than ten percent is embodied in the PBR guidelines and is consistent with recommendations submitted to the NOAA-Fisheries by the Marine Mammal Commission in 1990 regarding the regulation of incidental take related to commercial fishing operations (65 FR 35904). This concept also appeared in the 1992 legislative proposal by NOAA-Fisheries, which became the basis for the 1994 amendments to the MMPA (Wade 1998).

Because most marine mammal species, including manatees, are difficult to observe and

study, it is difficult to collect data of sufficient quality to allow detection of statistically significant changes in population parameters such as abundance or growth rate within the timeframes and with the precision needed for effective management (Wade 1998). As such, assessing the probability of a given action (or set of actions) causing a greater than ten percent increase in time needed to achieve OSP provides a reasonable standard, whereas attempting to quickly detect statistically significant changes in population parameters is impracticable.

The negligible impact standard established above could be restated quantitatively as follows:

1. There is 95 percent certainty that authorized incidental take will not increase the time needed to reach OSP by more than ten percent;

Additionally, the long term standards established above could be restated as follows:

2. There is a 95 percent probability that the manatee stock will be within OSP in 50 years; and

3. There is a 99 percent probability that the manatee stock will be within OSP in 100 years.

Regarding the probabilities associated with the above standards, the 95 percent probabilities for the first two standards were chosen to be consistent with the modeling approach used by Wade (1994) for selecting appropriate values for the PBR equation variables. We selected a higher probability value for the third standard to reflect the relative importance of our long term desire to ensure that each stock remains within OSP.

New population models and analyses were presented at the April 2002 Manatee Population Ecology and Management Workshop that clearly represent state-of-the-art analyses of manatee population status. Additionally, new data were presented regarding important manatee life history parameters; particularly, survival estimations for various life stages. In reviewing the models and analyses presented, it was decided that the model presented by Runge et al. (2002) was most suitable for adaptation for use in our negligible impact determination. This model was determined to be particularly well suited for use in the negligible impact determination because it utilizes the best available scientific information regarding Florida manatee survival estimates. It also utilizes the best available information regarding reproductive rates (recruitment) in Florida manatees. The fact that the model is built on estimates of survival and recruitment also corresponds directly to the regulatory definition of "negligible impact."

The Negligible Impact Model (model), based on the work of Runge et al. (2002), is described in detail in Appendix I of the draft Environmental Impact Statement. The model is based on female manatee population dynamics. The female manatee population is separated by age and reproductive status. Survival and reproductive probabilities are defined for each class.

The model projects population trends for each of the four manatee stocks based on repeated simulations that incorporate environmental and demographic variability, as well as varying levels of human-related take.

Discussions with the model's author indicated that the model could be modified to allow for estimation of the effects of varying levels of human-related incidental take on population structure and growth. Projections can be made assuming that no human-related take occurs. This establishes the baseline condition for purposes of comparison. In other words, in the absence of any incidental take, the four stocks would be expected to achieve the demographic benchmarks as quickly as possible. This baseline can then be compared to projections based on various levels of incidental take to determine at what point such take causes a greater than ten percent increase in the time needed to achieve the demographic benchmarks. Repeated simulations are performed to create a distribution of population projections from which the probability of achieving the benchmarks for a given level of take can be calculated.

In examining the possibility of modeling the time needed to achieve the demographic benchmarks, we realized that the Negligible Impact Model may indicate, under certain foreseeable scenarios, that the demographic benchmarks cannot be achieved even in the absence of incidental take. As mentioned above (see "The Status of the Florida Manatee" section), a substantial portion of the Florida manatee population currently depends on industrial warm water outfalls for survival during cold weather. It is likely that these sites will cease operation over the next 100 years; although we do not believe the loss of any significant warm water sites is currently imminent or likely over the term of this proposed rule. If alternative warm water sites are not available, the carrying capacity of the environment for manatees could be substantially reduced. This could substantially affect future demographic factors such as survival rates and population growth rates, even if no other human-related take occurs. It would also affect the OSP level for the species. The model will be used to assess scenarios based on the assumption of a declining carrying capacity as well as scenarios in which the carrying capacity is assumed to remain unchanged. If model results indicate that the demographic benchmarks cannot be maintained over 50 and 100 years for reasons unrelated to watercraft-related incidental take, we will reassess our assumed relationship between the demographic benchmarks and OSP, and base our final determination on the best available scientific information.

If our analysis indicates that the currently observed level of incidental take exceeds the negligible impact standards (i.e., if current incidental take levels are increasing the time needed to achieve the demographic benchmarks by more than ten percent and/or are likely to prevent the stocks from continuing to meet the benchmarks over 50 and 100 years), then we would assess whether mitigating measures (discussed below) are available that could reduce incidental take to the negligible impact level.

Mitigating Measures

We have identified five categories of mitigating measures that government agencies can

implement to reduce and control watercraft-related incidental take. In decreasing order of effectiveness these include--(1) establishment of speed zones and protected areas to control watercraft speeds and/or restrict access to areas of importance to manatees; (2) law enforcement to ensure compliance with restrictions established pursuant to (1); (3) education to improve public understanding of manatee conservation needs and enhance compliance with manatee protection measures; (4) review of proposals to construct watercraft access facilities with a view toward minimizing the effects of such facilities on manatees and manatee habitat; and (5) other measures that are available or may become available over the period of this rule. Although the categories vary in terms of their relative effectiveness, they cannot be viewed as completely separate measures because the effectiveness of each depends on others. For example, speed zones must be enforced and the public must be informed and educated about the zones through appropriate signage and outreach in order for the zones to provide effective protection of manatees.

1. Watercraft Regulations--As previously stated (see Watercraft-Related Impacts to the Florida Manatee) watercraft operation and speed are the primary factors contributing to collisions with manatees. As such, government programs that regulate watercraft speeds and access to areas of importance to manatees have the greatest potential to control watercraft-related incidental take. At high speeds, watercraft operators are less able to detect and avoid objects in the path of the vessel (such as manatees) and manatees have less time to detect and avoid the on-coming vessel. Additionally, when collisions do occur, high-speed collisions are more likely to cause death or serious injury than low speed collisions. Due to these facts, Federal, State and local officials have sought to limit watercraft speeds in areas where manatees are most likely to occur to afford both manatees and boaters time to avoid collisions.

In addition to the threat posed by collisions with watercraft, the mere presence of watercraft can cause harassment of manatees in certain situations; most notably at warm water aggregation areas, where large numbers of manatees congregate in small areas in order to stay warm during winter months. Disturbance of manatees at these sites can cause manatees to leave the warm water area, exposing them to potentially harmful cold water conditions. To address this threat, Federal, State and local managers have restricted human access to many important warm water sites during winter months.

Watercraft speed and access are controlled through--(a) establishment of watercraft speed zones and restricted access areas, including posting of appropriate signage; and (b) regulation of specific marine events; particularly high-speed watercraft races. Federal, State, and local government agencies have the authority to designate speed zones and restricted access areas within waters accessible to manatees. At the Federal level, we designate “manatee protection areas” pursuant to 50 CFR 17.103. We may, by regulation, establish manatee protection areas whenever there is substantial evidence showing such establishment is necessary to prevent the taking of one or more manatees. We may establish two types of manatee protection areas--manatee refuges and manatee sanctuaries. A manatee refuge, as defined in 50 CFR 17.102, is an area in which we have determined that certain waterborne activities would result in the taking of

one or more manatees, or that certain waterborne activities must be restricted to prevent the taking of one or more manatees, including but not limited to a taking by harassment. A manatee sanctuary is an area in which we have determined that any waterborne activity would result in the taking of one or more manatees, including but not limited to a taking by harassment. A waterborne activity is defined as including, but not limited to, swimming, diving (including skin and SCUBA diving), snorkeling, water skiing, surfing, fishing, the use of water vehicles, and dredging and filling activities.

State manatee protection rules are established by the FWC to restrict the speed and operation of vessels where necessary to protect manatees from harmful collisions with vessels and from harassment. In areas that are especially important to manatees, the State's rules can prohibit or limit entry into an area as well as restrict what activities can be performed in the area. The FWC is authorized to adopt these rules by the Manatee Sanctuary Act (370.12(2), Florida Statutes). The rules appear in Chapter 68C-22 of the Florida Administrative Code (FAC).

Local governments can also establish manatee protection zones through the adoption of a local ordinance. These zones must be approved by FWC before they can take effect, as required by Chapter 370.12(2)(o), F.S. The only other limitation on a local government's ability to establish manatee protection zones is that local zones cannot include waters within the main marked channel of the Florida Intracoastal Waterway or waters within 100 feet. The FWC manatee protection rulemaking process is described in rule 68C-22.001, FAC.

The goal with respect to the establishment of watercraft speed zones and restricted access areas is to identify areas of importance to manatees, including wintering sites, travel corridors, feeding areas, calving areas, and other areas of similar importance, and to ensure that such areas are protected with appropriate designations. Designations should be consistent at a regional level and configured as simply as possible to facilitate public understanding and compliance. Signage for all designated areas should be consistently and appropriately worded and located in order to enhance compliance in all manatee protection areas.

Marine events are regulated at the Federal level by the U.S. Coast Guard (USCG), in consultation with us. Marine events include watercraft races, ski shows, fishing tournaments, boat parades and events such as fireworks shows, which can attract large numbers of spectators in watercraft. Marine events involving high-speed activities are of primary concern as it relates to threats to manatees. These events generally include races, waterskiing and fishing tournaments with high-speed starts or other high-speed operations. The USCG is authorized to issue regulations to promote the safety of life on navigable waters during regattas and marine parades (33 U.S.C. 1233). This authority includes events on, in, and under the water.

Whenever a marine event is planned by an individual or an organization (the sponsor) which, by its nature, circumstances, or location, will restrict navigation or otherwise introduce extra or unusual hazards to the safety of life on navigable waters of the United States, the sponsor must submit an application to the USCG for review and approval. The application is received

and investigated by respective district, group, or unit offices that have authority to permit or deny the proposed event. Current USCG policy allows issuing authorities to add conditions or deny permits for marine events based on environmental concerns (COMDTINST 16751.3A, Regattas and Marine Parades). In Florida, sponsors apply to USCG group offices in Key West, Mayport, Miami, and St. Petersburg. USCG reviewers investigate each application and, when appropriate and as required under section 7 of the ESA, request consultation with us when it is apparent that the proposed event may affect manatees or other listed species. The USCG also coordinates with the Florida Department of Environmental Protection for events held in State waters. Through these review processes it is generally recommended that marine events be held in areas and at times when there is little or no likelihood of encountering manatees. When this is not possible, it is either recommended that the event not be held or that certain measures be adopted as a condition of the USCG permit to minimize the effect of the event on manatees and manatee habitat. These measures include the use of manatee watches, designating slow speed areas for the duration of an event, education of event participants and spectators, and other measures.

2. Enforcement-- In order to be effective in controlling watercraft-related incidental take, there must be a high level of compliance with established watercraft speed zones and restricted access areas. Enforcement is an important element of compliance. Ideally, our goal is to achieve full compliance with manatee protection regulations. Studies indicate that in the absence of law enforcement roughly 54 to 63 percent of boaters are in compliance with posted speed zones; while 20 to 51 percent are in technical non-compliance (exceeding posted speeds by one speed category or any level of excessive speed for a relatively small distance within the posted area), and the remainder are in blatant non-compliance (exceeding posted speeds by greater than one speed category for a significant portion of the posted area) (Gorzelany 1996, 1998, 2001; Shapiro 2001). Studies have found, however, that the level of boater compliance is variable depending on location. For example, Gorzelany (1998) found overall boater compliance for several sites in the Caloosahatchee River averaged 57.3 percent, but ranged from a low of 12 percent to a high of 77 percent. In the presence on law enforcement, Shapiro (2001) recorded a compliance rate of up to 89 percent. Gorzelany (2001) observed an increase of compliance from 29-44 percent to 64-73 percent in the presence of law enforcement. Our proposed compliance goal, based on recent work by Mote Marine Laboratory and Florida Marine Research Institute (Gorzelany 1996, 1998, 2001, Shapiro 2001), is to achieve 70 percent or greater full compliance and no more than ten percent blatant non-compliance levels throughout the State, as determined by independent monitoring studies. Based on the above-mentioned studies, this level of compliance appears to be achievable, while also representing the upper range of observed compliance levels in the presence of enforcement. We recognize that this goal does not assess the effects of other important aspects of compliance. For example, in situations where there are very high number of watercraft operating in an area with high numbers of manatees, achieving the above compliance standard could still lead to a high number of non-compliant watercraft operating in a manner that poses a threat to manatees.

Enforcement of manatee protection rules is provided by officers of the Service, FWC, USCG, and local law enforcement agencies, as well as the courts. To ensure compliance with the

waterway speed and access rules and with manatee harassment provisions, enforcement capabilities must be expanded and coordinated. Although efforts have increased significantly during the past few years, manatee enforcement operations still must be expanded in both geographic scope and frequency. To meet these needs, Federal and State enforcement agencies should take all possible steps to increase funding and heighten agency priority for manatee-related law enforcement activities. Those activities should be maintained at levels commensurate with those of vessel traffic, watercraft-related manatee deaths, and added enforcement responsibilities. To carry out enforcement activities as efficiently and cost-effectively as possible, involved agencies should coordinate enforcement efforts. In addition, enforcement agencies should review and assist as much as possible with the development of new manatee protection statutes and regulations, the posting of manatee regulatory signs, enforcement training seminars, studies to monitor regulatory compliance, and actions by the judiciary to prosecute violations.

3. Watercraft Operator Education/Awareness-- In addition to signage and enforcement, watercraft operator education and awareness is essential to achieving greater compliance within and understanding/recognition of manatee protection areas, as well as the general public's understanding of manatee conservation issues. A study by the Environmental Protection Agency (EPA) found that the more the EPA invested in outreach and education through various avenues, including press releases, trade articles, and plain English brochures, the greater the likelihood that companies would be informed about environmental regulations and be likely to comply (Eustis 1993). Many manatee and habitat education programs and materials are produced and made available to school systems as well as the general public and user groups; however, such efforts need to be continually evaluated and updated. This information must be clear, consistent, concise, and readily available to the general public and target user groups. As such, Federal and State agencies should cooperatively develop uniform multi-media educational programs/curricula for the general public and schools, and ensure that these materials are provided to all watercraft operators utilizing Florida waters.

The success of manatee/habitat conservation efforts requires identification of target audiences and locations. Target audiences and key locations should be prioritized by need, i.e., areas where manatee mortality and injury are highest, areas where manatee/human interaction occurs frequently, and areas where habitat is most at risk. These areas include, but are not limited to, high watercraft use areas, boat ramps, manatee aggregation sites, manatee observation areas, fishing piers, seagrass areas, and other areas identified as having important habitat features (e.g., fresh water areas and areas used for resting and/or calving). It is also important that some materials explicitly target specific user groups, such as boaters in areas of high watercraft mortality.

4. Watercraft Access Facility Siting-- The siting and construction of watercraft access facilities can be directed through local zoning, in the form of facility siting components of county manatee protection plans (MPPs), or through Federal and State permitting processes.

A. Watercraft Access Facility Siting Plans-- Development of MPPs is mandated by the Florida Manatee Sanctuary Act (Chapter 370.12, F.S.). Watercraft access facility siting plans, as components of comprehensive county MPPs, are excellent tools for guiding long-term watercraft access facility development and anticipating and addressing the cumulative impacts of such facilities. By anticipating and planning for the future access needs at a county-wide level, the cumulative effects on manatees and manatee habitat can be anticipated and mitigated. It is our view that this forward-looking approach is preferable to the more reactive approach or dealing with the effects of such facilities on a case-by-case basis. Under the Florida Manatee Sanctuary Act, 13 counties are mandated to develop MPPs by July 1, 2004. The FWC is to designate any other county where there exists a substantial risk to manatees by January 1, 2005, and those counties are to develop MPPs by July 1, 2006.

B. Permit review-- The agencies involved in the authorization of watercraft access facilities and their regulatory processes are described above (see Specified Activities). Through these review processes, the potential adverse effects to manatees or manatee habitat are identified, and if necessary permits can be specifically conditioned to avoid the adverse impacts, or where appropriate, denied. Typical permit conditions include limitations on the number of slips, and avoidance or minimization of impacts to sea grasses and other habitat features. Additionally, standard manatee construction conditions have been developed that are utilized by the Corps as well as State regulatory agencies to minimize the direct effects of watercraft access facilities on manatees and manatee habitat. These conditions include education of construction personnel regarding manatee awareness; control of construction-related vessel speeds; use of construction equipment such as siltation barriers that avoid manatee entrapment; stand-off distances from manatees sighted in construction area; and manatee awareness signage. These standard conditions and other conditions developed through the permit review process have been effective in minimizing the direct effects of watercraft access facilities and their construction on manatees and manatee habitat.

5. Technological and Other Mitigating Measures-- Devices such as propeller guards have been used in limited circumstances to reduce the threat of manatee death or injury. Other technologies have been discussed or proposed; however, none have yet been demonstrated to be effective or practical. The FWC has recently funded additional research into various types of technological measures to reduce watercraft-related take of manatees, and any such measures that are demonstrated by this research, to be effective and practicable to implement during the period of this rule will be considered along with the mitigating measures described above. This would occur through future review and renewal of agency LOAs.

Negligible Impact Analysis and Conclusions

Based on our application of the above described method for assessing the status of Florida manatee stocks relative to the "negligible impact" standards and our review of the existing and potentially available/necessary mitigating measures, we have made the following findings for each of the four stocks. As stated above, these determinations are based on our

review of the best available data, and we believe this method is adequate for making this negligible impact determination. It may be possible to refine this analysis for the final rule based on a modeling effort that is currently being developed.

1. Upper St. Johns River Stock-- Adult survival for this Stock has been calculated to be 96.1 percent with a 95 percent confidence interval range from 90.0 to 98.5 percent (Langtimm et al. 1998), based on data collected between 1977 and 1993. It is estimated that 41 percent of females at the winter sites are accompanied by first or second-year calves (U.S. Fish and Wildlife Service 2001). It is also estimated that this stock is growing at a rate of 6.1 percent per year, with a 95 percent confidence interval between 1.7 and 8.7 (Runge, unpubl. analysis). All three estimates exceed the levels indicated in the demographic benchmarks, which indicates a healthy and growing population, and provided the factors affecting this population remain essentially the same (including continued implementation of existing conservation measures), we anticipate that the stock will continue to increase toward OSP at a biologically acceptable rate.

Existing conservation measures in this area include an adequate system of watercraft speed zones that have been implemented by the FWC. There is also a seasonal motorboat prohibited zone at Blue Spring, the primary wintering site for this stock. These zones are enforced by local, State and Federal law enforcement. Shapiro (2001) reported 85 percent compliance with speed zones near Blue Spring in the presence of law enforcement. There are no County MPPs in place within this Stock; however, Volusia County is in the process of preparing one. In the absence of county MPPs, applications for construction of watercraft access facilities are reviewed on a case-by-case basis, and effective measures to reduce impacts on manatees will be required. Other measures such as boater education and regulation of marine events are also carried out within this Stock. As reflected by rates that exceed the demographic benchmarks, these measures are effectively controlling the amount of watercraft-related incidental take. Our analysis of historic levels of watercraft-related incidental take, levels of take anticipated during the five-year period, and the effectiveness of existing measures indicates that the anticipated take during the five-year period will not significantly affect rates of recruitment or survival. Provided existing measures continue to be implemented we expect this Stock to continue to perform at the currently observed level, and there will be no significant delay in achieving OSP. Therefore, we find that watercraft-related incidental take is having a negligible impact on this Stock. Separate from our negligible impact finding, we also find no evidence to suggest that the currently observed levels of watercraft-related incidental take will adversely affect long term population trends.

2. Northwest Stock-- Adult survival for this Stock has been calculated to be 96.2 percent with a 95 percent confidence interval range from 95.3 to 97.2 percent (Langtimm et al., unpubl. analysis), based on data collected between 1981 and 2000. It is estimated that 43 percent of females at the winter sites are accompanied by first or second-year calves (U.S. Fish and Wildlife Service 2001). It is also estimated that this Stock is growing at a rate of 5.0 percent per year, with a 95 percent confidence interval between 3.2 and 6.8 (Runge, unpubl. analysis). All three estimates exceed the levels indicated in the demographic benchmarks, which indicates a healthy

and growing population, and provided the factors affecting this population remain essentially the same (including continued implementation of existing conservation measures), we anticipate that the stock will continue to increase toward OSP at a biologically acceptable rate.

As reflected through rates that exceed the demographic benchmarks, the existing measures that are in place in this stock are effectively controlling the amount of watercraft-related incidental take. These measures include implementation of the Citrus County MPP. This plan was adopted in 1993 and includes, among other components, an adequate set of speed zones in areas of importance to manatees. Additionally, we have established several manatee protection areas that prohibit and control watercraft access to important wintering sites within the County. One of these sites is also designated as a seasonal watercraft prohibited area by the FWC. The speed zone and restricted access area regulations are enforced by County, State and Federal law enforcement.

The Citrus County MPP also includes a watercraft facility siting component that establishes effective criteria for the location and construction of such facilities within the County. The MPP has been adopted by local, State, and Federal agencies for evaluating the effects of proposed watercraft access facilities on manatees and manatee habitat. Other measures, such as boater education and regulation of marine events, are also carried out within this Stock.

No other counties within this stock have adopted MPPs and no other speed zones or restricted access areas have been established for manatee protection. However, manatee use of the waters outside Citrus County is limited to the warm season, and this portion of Florida is much less densely populated than other areas of Florida. As such, there is much less watercraft traffic and the threat of collisions between boats and manatees is low. Our analysis of historic levels of watercraft-related incidental take, levels of take anticipated during the five-year period, and the effectiveness of existing measures indicates that the anticipated take during the five-year period will not significantly affect rates of recruitment or survival. Provided existing measures continue to be implemented we expect this Stock to continue to perform at the currently observed level, and there will be no significant delay in achieving OSP. Therefore, we find that watercraft-related incidental take is having a negligible impact on this Stock. Separate from this negligible impact determination, we also find no evidence to suggest that the currently observed levels of watercraft-related incidental take will adversely affect long term population trends.

3. Atlantic Stock-- Adult survival in this Stock has been calculated to be 94.3 percent with a 95 percent confidence interval range from 92.3 to 96.2 (Langtimm et al., unpubl. analysis), based on data collected between 1984 and 2000. The percentage of adult females with first and second-year calves has been estimated to be 42 percent (U.S. Fish and Wildlife Service 2001). The annual population growth rate has been calculated to be 3.2 percent with a 95 percent confidence interval range between 0.3 and 5.7 (Runge unpubl. analysis). These three estimates are close to the demographic benchmarks. However, the number of manatees killed by watercraft increased at a rate of 5.5 percent per year between 1980 and 1999 (U.S. Fish and Wildlife Service 2001), which is higher than the estimated population growth rate. Additionally,

Langtimm et al. (unpubl. analysis) found evidence for a decline in adult survival in the Atlantic Stock in the latter part of a 16-year time period. This apparent trend is currently being studied further with other statistical methods (Langtimm, personal communication).

Numerous manatee protection measures are currently in place for the Atlantic Stock. Speed zones and/or restricted access areas have been established in Duval, Volusia, Brevard, Indian River, St. Lucie, Martin, Palm Beach, Broward, and Miami-Dade counties. We recently implemented Federal manatee protection areas at two sites in Brevard County, and the FWC has recently enacted new speed zones in Brevard and Indian River counties. MPPs have been approved by the FWC for Miami-Dade, Duval, Indian River and St. Lucie counties. We believe that manatee protection measures recently implemented by the FWC and us in the Atlantic Stock as well as the additional measures described below will reduce levels of incidental take in the Atlantic Stock to the negligible impact level.

In order to determine where additional mitigating measures need to be implemented, we have examined mortality trends within this Stock in an attempt to focus implementation of mitigating measures in those areas with continuing histories of high levels of watercraft-related incidental take. The analysis conducted by Flamm (2002) identified three primary manatee mortality concentration areas within the Atlantic Stock–(1) the Duval County area, (2) the Volusia-Brevard County area, and (3) Palm Beach-Broward County area. The best available information indicates that in order to reduce incidental take to a level that would have a negligible impact on this stock, mitigating measures must be focused in these areas.

Within regard to the Duval County area, the FWC approved the Duval County MPP in 1999, which includes speed zones, facility siting criteria, education, and enforcement components. We have determined that the configuration of the speed zones is minimally acceptable, and the recent decision by the County to improve signage of the zones on the St. Johns River will improve manatee protection in this area. Implementation of the Duval County MPP should reduce manatee mortality in this area. Shapiro (2001) observed a 56 percent compliance rate and a seven percent blatant non-compliance rate at a site in Duval County, indicating that additional mitigating measures in this area should include improved enforcement and boater education efforts.

Within the Volusia-Brevard County area, we believe that the newly enacted speed zones in Brevard County are adequate and appropriate, and given that Brevard County has historically been the area in the Atlantic Stock with the highest levels of watercraft-related mortality, the new Brevard County zones will substantially enhance protection of the Atlantic Stock. There is a continued high level of watercraft-related manatee mortality in portions of Volusia County, including the Halifax and Tomoka Rivers, and no recent actions have been taken to improve the speed zones in these areas. We believe additional protective measures are needed in these areas.

In addition to improvements in watercraft speed zones, it is likely that efforts are necessary to improve compliance with speed zone regulations. As noted above, Shapiro (2001)

observed levels of compliance at sites within the Atlantic Stock that were below our above-stated compliance goal. As such, additional law enforcement and boater education efforts, focused within the above-described manatee mortality concentration areas (Flamm 2002) are considered to be appropriate and necessary mitigating measures to reduce watercraft-related incidental take within the Atlantic Stock.

We are continuously collecting and evaluating information regarding trends in watercraft-related mortality, and as new information becomes available, additional or different specific sites may be identified as being in need of additional protection. It is also possible that additional information could alter our views regarding the adequacy of protection measures in the above-identified areas. However, based on our current assessment of the best available information, implementation of the above-mentioned measures will be effective in reducing watercraft-related incidental take within the Atlantic Stock.

In regard to the review of applications to construct watercraft access facilities, as stated above the preferred method is through the development and implementation of county MPPs, and the use of the facility siting component of those plans to guide local, State, and Federal permit review processes. It is our view that MPPs should be developed and implemented for all counties where the watercraft-related manatee mortality rate for the preceding five years averages one or more manatees. Based on current data, this includes the following counties within the Atlantic Stock--Brevard, Broward, Duval, Indian River, Martin, Miami-Dade, Palm Beach, and Volusia. As noted above, MPPs have been approved by the FWC for Miami-Dade, Duval, Indian River and St. Lucie counties. While development of MPPs for the above counties would be an appropriate, and indeed preferable mitigating measure with respect to the effects of watercraft access facilities, we have determined that it is not necessary to ensure that the effects of the authorized activities have a negligible impact on manatees, because until such plans are adopted the effects of watercraft access facilities on manatees and manatee habitat will continue to be assessed and reduced on a case-by-case basis through effective State and Federal regulatory processes, as described above.

In summary, the Atlantic Stock is close to the demographic benchmarks; however, watercraft-related take is high, and it appears that this level of watercraft-related incidental take may affect this stock's ability to continue to increase toward OSP. Based on this, we conclude that the current level of watercraft-related incidental take is having a greater than negligible impact on this Stock. However, with the continued implementation of existing effective measures along with implementation of the additional mitigating measures described above, we conclude that the total effect of watercraft-related incidental take will have a negligible impact on this Stock. Our analysis of historic levels of watercraft-related incidental take, levels of take anticipated during the five-year period, and the effectiveness of existing and additional measures indicates that the anticipated take during the five-year period will not significantly affect rates of recruitment or survival. Separate from our negligible impact determination, if the apparent recent decline in adult survival is confirmed and continues, it will inevitably lead to a population decline that would adversely affect the long term population trend and prevent the stock from

maintaining itself within OSP; however, we conclude that with the continued implementation of existing effective measures along with implementation of the additional mitigating measures described above, the total effect of watercraft-related incidental take will not adversely affect the long-term population trend.

4. Southwest Stock-- Adult survival for this Stock has been calculated to be 90.6 percent with a 95 percent confidence interval range from 86.7 to 94.4 percent (Langtimm et al. unpubl. analysis), based on data collected between 1994 and 2001. There are no reliable estimates of the percent of adult females at the winter sites that are accompanied by first or second-year calves, although we are working with our partners to collect these data. It seems reasonable to assume that the recruitment rate for the Southwest Stock is similar to or lower than observed for the Atlantic Stock. There are no estimates of the population trend for this Stock. However, based on the estimated adult survival rate, it is likely that this Stock is currently declining or is, at best, stable. It seems unlikely that the Southwest Stock is meeting any of the demographic benchmarks at this time, and based on the adult survival estimates, it appears as though considerable improvement will be needed in order to begin to move this Stock toward achieving the demographic benchmarks. Additionally, watercraft-related mortality has increased greatly in recent years. The average annual number of manatee mortalities attributed to watercraft during the past five years (1997 to 2001) was 34.2, compared to 19.0 for the previous five-year period (1992 to 1996), and the number of manatees killed by watercraft increased at a rate of 7.3 percent per year between 1976 and 2002, which is a likely cause of the stable or declining population trend. Further, given the susceptibility of this Stock to naturally occurring mortality events such as red tide, it is possible that this Stock is less capable than other stocks of sustaining itself in the face of high levels of human-related take.

Numerous manatee protection measures are currently in place within the Southwest Stock. Speed zones and/or restricted access areas have been established in portions of Hillsborough, Pinellas, Manatee, Sarasota, Charlotte, Lee, and Collier counties. We recently enacted Federal manatee protection areas at sites in Hillsborough, Pinellas, Sarasota, Charlotte, Desoto, and Lee counties, and the FWC has recently enacted new speed zones in Hillsborough, Manatee, Sarasota, Charlotte, and Desoto counties. A MPP has been approved by the FWC for Collier County. We believe that manatee protection measures recently implemented by the FWC and us for the Southwest Stock will reduce the rate of increase in the number of watercraft-related mortalities.

In considering where additional mitigating measures need to be implemented, we have examined mortality trends within this Stock in an attempt to focus implementation of mitigating measures in those areas with continuing histories of high levels of watercraft-related incidental take. The analysis conducted by Flamm (2002) identified one primary manatee mortality concentration area within the Southwest Stock (i.e., the Charlotte, Lee, Collier County area). Additionally, review of mortality statistics indicate that the number of manatees killed by watercraft in the greater Tampa Bay area (Hillsborough, Pinellas, Manatee, and Sarasota counties) has increased rapidly in recent years. For the period between 1992 and 1996 an

average of 4.6 manatees were killed by watercraft in the greater Tampa Bay area each year, whereas an average of 8.6 manatees per year were killed by watercraft between 1997 and 2001. It is our view that in order to reduce incidental take to a level that would have a negligible impact on the manatee, mitigating measures must be focused in these areas.

Within the greater Tampa Bay area, substantial efforts have been made to improve manatee protection by local governments, and recently by the FWC and us; however, large areas of these bays that are of importance to manatees remain unprotected. We understand that the FWC will begin to prepare a rulemaking proposal for Tampa Bay in the near future. It is our view that implementation of additional protection measures in Tampa Bay, Old Tampa Bay, and Hillsborough Bay are appropriate and necessary mitigating measures to reduce watercraft-related incidental take within the Southwest Stock.

Speed zones for manatee protection have been established only in very limited portions of Manatee County. There are no significant wintering sites in Manatee County. However, waters throughout the county receive considerable use by manatees; particularly Terra Ceia Bay, Anna Maria Sound, Sarasota Bay, the Manatee River and the Braden River. Recent enactment of speed zones in Terra Ceia Bay by the FWC will benefit manatees. It is our view that implementation of additional protection measures in Manatee County are appropriate and necessary mitigating measures to reduce watercraft-related incidental take within the Southwest Stock.

Within the Charlotte-Lee-Collier County area, the recent enactment of speed zones on Lemon Bay and the Peace River by the FWC and us will improve manatee protection in these areas. Additionally, the FWC is conducting a study of the Caloosahatchee River, which may lead to recommendations for improving manatee protection in this area. Additionally, the FWC will conduct a broader study of the existing speed zone rules in Lee County, and a study of the waters of the Ten Thousand Islands area of Collier County, which may lead to recommendations for addressing our concerns regarding the waters near Bokeelia Point, the Ten-mile Canal, Mullock Creek, and Chokoloskee Bay. Finally, the National Park Service (NPS) intends to address manatee protection measures within Everglades National Park as part of their General Management Plan process. It is our view that implementation of additional protection measures in the above-identified waterbodies are appropriate and necessary mitigating measures to reduce watercraft-related incidental take within the Southwest Stock.

As new information becomes available, additional areas of importance to manatees may be identified as being in need of additional protection. It is also possible that additional information could alter our views regarding the adequacy of protection measures in the above-identified areas. However, based on our current assessment of available information, resolution of the above-mentioned deficiencies are considered to be appropriate and necessary mitigating measures to reduce watercraft-related incidental take within the Southwest Stock.

In addition to improvements in watercraft speed zones, efforts are necessary to improve compliance with speed zone regulations. As noted above, Shapiro (2001) and Gorzelany (1996,

1998, 2001) observed levels of compliance at sites within the Southwest Stock that were below our above-stated compliance goal. As such, additional law enforcement and boater education efforts, focused within the greater Tampa Bay area and the Charlotte-Lee-Collier County area are considered to be appropriate and necessary mitigating measures to reduce watercraft-related incidental take within the Southwest Stock.

In regard to the review of applications to construct watercraft access facilities, as stated above the preferred method is through the development and implementation of county MPPs, and the use of the facility siting component of those plans to guide local, State, and Federal permit review processes. It is our view that MPPs should be developed and implemented for all counties where the watercraft-related manatee mortality rate for the preceding 5 years averages one or more manatees. Based on current data, this includes the following counties within the Southwest Stock--Charlotte, Collier, Glades, Hillsborough, Lee, Manatee, Monroe, Pinellas, and Sarasota. As noted above, an MPP has been approved by the FWC for Collier County. We note that per the Florida Manatee Sanctuary Act MPPs are not currently mandated to be completed for all these counties and no MPPs are required to be completed before July 1, 2004. As such, the implementation of MPPs does not appear to be a mitigating measure that is likely to be implemented within the timeframe of this rule, and applications to construct watercraft access facilities will continue to be reviewed on a case-by-case basis through State and Federal regulatory processes.

As indicated above, there is a need for considerable improvement in the status of the Southwest Stock, and numerous measures are needed to bring about those improvements. It is our view that implementation of necessary mitigating measures is unlikely to occur within the timeframe (five years) necessary to reduce the effects of watercraft-related take to negligible levels per this proposed rule. As such, we conclude that the current level of human-related take of manatees is substantially increasing the time needed to achieve the demographic benchmarks and is having a more than negligible impact on this Stock, and incidental take of manatees cannot be authorized. This constitutes a negative finding pursuant to 50 CFR 18.27(d)(4). We further conclude that it is unlikely that the Stock will be able to achieve or maintain OSP levels over the near or long term under current levels of watercraft-related incidental take.

We will continue to work with our partner agencies and stakeholders to develop and implement measures to reduce incidental take within this Stock. Additionally, we will also continue to work with the scientific community to collect the data necessary to improve our assessment of the status of the Southwest Stock relative to the demographic criteria. It is possible that additional and/or improved data collection and analysis will result in stronger data sets with greater statistical confidence. We believe that if incidental take can be reduced and controlled, and the necessary population data is collected, it may become possible at a future date to promulgate regulations authorizing incidental take in this region. We will continuously monitor the status of this Stock relative to the benchmarks, and will propose incidental take regulation as soon as we determine that incidental take within this Stock has been reduced to a negligible level, or could be reduced to a negligible level through implementation of mitigating

measures. This could occur at any time during the five-year period of this rule, or in subsequent rulemakings.

Monitoring and Reporting

Reducing and controlling the incidental take of manatees at a level that would have a negligible impact on the species requires active participation of all stakeholders, including boaters, marine manufacturers and industry, government agencies, and the general public. In order to provide all parties a continuing role in this process and implementation of this rule, we propose to establish a Working Group on Watercraft-related Incidental Take (WGWIT).

The WGWIT will be organized as a sub-committee of the Florida Manatee Recovery Team, similar to what has been done with the Habitat Working Group and the Warm Water Task Force. The composition of the WGWIT will have representation from the Florida Manatee Recovery Team and participants from each of the following parties/stakeholders--recreational power boaters, personal watercraft operators, non-motorized boating groups, commercial fishermen, fishing guides, recreational fishing organizations, marine manufacturers, marina owners, environmental advocates, consultants and each government agency obtaining an LOA from us per the final rule. WGWIT members will serve without compensation. Through this notice we are requesting suggestions on groups that should be included in the WGWIT and nominations of persons interested in serving on this panel. Nominations for the WGWIT should be submitted as part of the comments to this proposed rule. Comments are due on the date stated above in DATES, and you should refer to the ADDRESSES section of this proposed rule on how to submit comments. Based upon the nominations, we will send out invitations for participation in the WGWIT in late January 2003.

Once the final rule is in effect, the WGWIT will meet regularly (twice yearly) to assist in evaluating the effectiveness of the mitigating measures in reducing incidental take of manatees. Based upon these evaluations, the WGWIT will make recommendations to us regarding means of improving the effectiveness of existing mitigating measures, elimination of ineffective or unnecessary mitigating measures, and additional mitigating measures that may be necessary, and will advise the Service on needs related to research and monitoring. Recommendations from the WGWIT will be non-binding on our actions, but will be given strong consideration in the implementation of the incidental take regulations.

We also intend to form a Law Enforcement Committee under the WGWIT, comprising of the Federal, State and local entities involved with the (1) design, location, installation, and/or maintenance of signs, (2) enforcement of speed zone and restricted access regulations, and (3) prosecutorial discretion to take action against violators. We envision this committee to include representatives from the Service (Ecological Services and Law Enforcement), FWC (Bureau of Protected Species Management and Law Enforcement), FDEP, Corps, USCG, Inland Navigation Districts, and the U.S. Attorney's Office. The Law Enforcement Committee would be tasked with development of a statewide violation tracking system as well as a uniform profile and fine

structure. The committee would also assist researchers and managers in the identification and prioritization of manatee protection areas for targeted compliance monitoring and enforcement. We believe improved coordination among law enforcement entities will result in improved compliance and improved manatee protection overall.

The monitoring and reporting requirements associated with this rule are intended to enable us to track agency compliance with the terms and conditions of issued LOAs, and to evaluate observed levels of incidental take against the negligible impact threshold. We intend to integrate information received through these requirements with current and future research efforts in order to evaluate the effectiveness of mitigative measures with a view toward refining measures to improve results, and to identify and fill data gaps in order to improve future decision-making.

Monitoring efforts for each of the five categories of mitigating measures will be structured as follows. We anticipate improvement of these efforts as information is gathered and the WGWIT has the opportunity to evaluate the monitoring methods and standards.

1. Watercraft Speed Regulations-- We, in coordination with the FWC and other LOA holders, will evaluate areas of manatee habitat, with or without designated watercraft speed zones and restricted access areas, to determine if an adequate system of protective measures has been established. The evaluation would include, but not be limited to, carcass retrieval information/annual mortality statistics, aerial surveys, speed zone compliance, mapping quantity and quality of important habitat features (e.g., warm water refugia, fresh water sources, seagrass beds, etc.), and the status of the development or implementation of facility siting plans.

2. Enforcement-- To monitor the level of compliance in designated speed zones and restricted access areas, we propose the use of the methodology developed by Mote Marine Laboratory (Gorzelany 1996 and 1998). For each site to be monitored, a land- or water-based observation area should be chosen to provide the observer with a vantage point that also allows discreet observation so as not to influence speed or behavior of watercraft operators utilizing the site. At each site, three 2-hour observation periods per month should be conducted and include two weekend days (Saturday and Sunday) and one weekday (Monday-Friday). For the purposes of this rule, the duration and time of year of monitoring will be site specific and determined by several factors, including but not limited to, peak season(s) of manatee use in relation to peak season(s) of watercraft use, historic and present level of watercraft-related manatee mortality, proximity to winter aggregation site or other important habitat features, and seasonality, if any, of the manatee protection area. Each site should be sampled equally among three different 2-hour time windows: 0800-1000 hours, 1100-1300 hours, and 1400-1600 hours. For each observation day, the observer(s) should record the weather, wind, wave, and boating conditions for each site. For each watercraft observed, the observer(s) should record the time, vessel type, vessel size, activity the vessel is engaging in, origin, destination, vessel speed, evaluation of compliance, and any additional comments. Gorzelany (1996) provides a detailed description of the categories and definitions of the data to be collected as well as an example of a data collection sheet. Data

should be complied and analyzed consistent with Gorzelany (1996 and 1998) in order to have meaningful, comparable results throughout the state.

3. Watercraft Operator Education/Awareness-- Monitoring of education/awareness efforts would be accomplished by LOA holders through participant evaluation forms included in education packages for watercraft operator safety programs as well as programs designed for the general public and schools. Periodic surveys of the public at large should also be developed through the WGWIT and administered in a random, statewide study to determine the overall effectiveness of manatee education and outreach.

4. Watercraft Access Facility Siting-- The FWC's BPSM currently tracks and reports on the status of county MPPs. In addition, LOA holders who permit watercraft access facilities will be required to report the numbers and types of watercraft access facilities authorized each year by water body, as well as other relevant information including permit conditions and permit denials.

Each agency receiving an LOA will be required to submit a report of all activities conducted pursuant to the LOA annually. The specific reporting requirements, including which activities must be reported and the level of detail necessary for reporting, will depend on the specific activities for which each agency seeks an LOA, and will be specified in the LOA.

Research

On-going and additional research activities will provide additional information for implementation of this rule and development of future rules and conservation efforts. These include, but are not limited to, the following--continued efforts to gather data on survival rates for the various life stages and the reproductive rates defined in the population model; continued and expanded efforts to assess the effectiveness of watercraft speed zones as tools for reducing watercraft-related incidental take; expanded research on the effects of speed zones and watercraft access facility siting on boater behavior and travel patterns; continued and expanded monitoring of compliance with posted speed zones; and continued research into development of technologies to reduce manatee/watercraft interactions. These and future studies will be used to further evaluate and modify this process through time. Additionally, this research may help us make future findings for the Southwest Stock, as mentioned above.

Proposed LOA Process

The proposed regulations have been designed to identify the appropriate mitigation, monitoring, and reporting requirements to be detailed in the LOA, rather than in these regulations. This has been done because of the variable scope of authority, area of responsibility, and activities engaged in by the potential LOA applicants, and because appropriate measures need to be tailored to particular areas. Mitigating measures identified above as appropriate and necessary to ensure the effects of watercraft-related activities have a negligible impact on manatees must be in place before incidental take authorization can be granted.

Additional mitigating measures are not required for the Northwest and Upper St. Johns River stocks beyond those actions currently being taken by local, State, and Federal agencies; therefore, we anticipate that as long as applicants for LOAs commit to continue to engage in their current efforts to conserve manatees and to minimize the potential adverse affects of their activities on manatees, and these stocks continue to meet or exceed the demographic criteria, incidental take can be authorized. In the Atlantic Stock, however, those government agencies that have the necessary authority and resources will need to work with us to implement the appropriate mitigating measures in order to achieve negligible impact. Without their participation, other parties will not be able to receive authorization for incidental take within this Stock. Participation by other LOA holders will help reduce levels of take, but individually we do not believe that smaller government agencies can implement mitigative measures necessary to reduce watercraft-related manatee mortality to the negligible level within the Atlantic Stock.

In regard to local governments, most of the activities engaged in by local governments with respect to this rule are conducted under the purview of the State. For example, local MPPs and associated speed zones are approved by the FWC, and watercraft facility siting plans are incorporated into county comprehensive plans per the Department of Community Affairs. As such, should the State of Florida seek and receive an LOA that addresses incidental take related to their oversight of such local government activities, separate LOAs would not be needed by the counties.

No incidental take is authorized until LOAs are issued. Where there is the likelihood of taking Florida manatee, the entities who conduct activities described in the Specified Activities section may request an LOA. The proposed regulations require those who request an LOA to submit (1) a description of the specific activity or class of activities that can be expected to result in the incidental take of manatees; (2) the dates and duration of such activity and the specific geographical region where it will occur; (3) the anticipated impact of the activity on manatees (i.e., death, injury, harassment, etc.); (4) the anticipated impact of the activity to manatee habitat and the likelihood of restoration of the affected habitat; (5) the anticipated impact of the loss or modification of manatee habitat; (6) the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable adverse impact on the manatee and its habitat; (7) suggested means of accomplishing the necessary monitoring and reporting; and (8) suggested means of encouraging and coordinating research opportunities, plans, and activities to reduce such incidental take.

Each request for an LOA will be evaluated for the specific activity and the specific area for which authorization of incidental take is requested, and we will specifically condition each LOA for that activity and area. LOAs will be valid for one calendar year from the date of issuance, with re-authorization contingent on the submission of required report(s), including but not limited to, the status of implementation of LOA conditions and results of required monitoring. We will withdraw or suspend an LOA if we find that either the LOA or regulations are not being substantially complied with or that the authorized level of take is having or is likely to have more than a negligible impact on the Florida manatee (50 CFR 18.27(f)(5)). We

anticipate that in the event that an LOA holder is not substantially complying with the conditions of an LOA in a manner that leads to incidental take that is or is likely to be higher than the negligible impact level for the stock for which incidental take is being authorized, all LOAs issued may have to be suspended or withdrawn. Except in emergency situations where we have determined that there is a significant risk to the well-being of the Florida manatee, suspension or withdrawal of LOAs will not occur prior to notice and opportunity for public comment.

Public Comments Solicited

We intend that any final action resulting from this proposal will be based on the best available information. Therefore, we solicit comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule.

We welcome any and all suggestions, materials, and recommendations to assist and guide us in this endeavor. Specifically, we are seeking:

1. Information regarding manatee population studies/data, particularly for the Southwest Stock;
2. Information regarding measures, including technological measures, that would result in the least practicable impact on manatees and their habitat;
3. Information regarding the effectiveness of mitigating measures currently in place;
4. Information regarding the potential social and economic effects of the proposed regulations;
5. Information regarding means of minimizing potential social and economic effects of the negative finding for the Southwest Stock;
6. Suggested means and measures to report and monitor the effects of incidental take on manatees;
7. Suggested additional research efforts related to the findings of this rule; and
8. Nominations for participants to serve on the Working Group on Watercraft-related Incidental Take.

Additionally, we are requesting specific public comment on the following issues pertaining to the economic analysis, which is printed in its entirety in the EIS for this action:

1. Information to better model the change in boater behavior and/or the economic surplus impacts of changes in marine access;
2. Additional estimates of the difference in residential property values with and without the potential to construct private boat dock;
3. Information to estimate the number and regional distribution of boaters in Florida who register their boats out-of-state; and
4. Alternative regional impact models (i.e., alternatives to IMPLAN) that would more accurately capture changes in sector outputs and employment resulting from the rule.

Please submit comments as a DOS text file format and avoid the use of special characters and encryption. Please also include "Attn--RIN 1018-AH86" and your name and return address in your email message. If you do not receive a confirmation from the system that we have received your email message, contact us directly by calling the Jacksonville Field Office (see ADDRESSES section).

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their name and home address from the rulemaking record, which we will honor to the extent allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. However, we will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

Public Hearings

The MMPA provides for one or more public hearings on this proposal, if requested. Requests must be filed within 30 days of the date of this proposal. We have scheduled six public hearings for this proposal (see DATES and ADDRESSES sections). We will hold additional public hearings at dates, times, and sites to be determined, if requested. Requests for additional hearings must be made in writing and should be addressed to the Field Supervisor, Jacksonville Field Office (see ADDRESSES section). We will publish a separate notice in the Federal Register providing information about the time and locations of those hearings. Written comments submitted during the comment period receive equal consideration with those comments presented at a public hearing.

Clarity of Rule

Executive Order (E.O.) 12866 requires each agency to write regulations/notices that are easy to understand. We invite your comments on how to make this proposed rule easier to understand, including answers to questions such as the following--(1) Are the requirements in the proposed rule clearly stated? (2) Does the proposed rule contain unnecessary technical language or jargon that interferes with the clarity? (3) Does the format of the proposed rule (grouping and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity? (4) Is the description of the proposed rule in the SUPPLEMENTARY INFORMATION section of the preamble helpful in understanding the proposed rule? (5) What else could we do to make the proposed rule easier to understand?

Send a copy of any comments that concern how we could make this proposed rule easier to understand to--Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW, Washington, D.C. 20240. You may e-mail your comments to the following address--Execsec@ios.doi.gov.

Required Determinations

Regulatory Planning and Review

Under EO 12866 (58 FR 51735), we must determine whether this proposed regulatory action is "significant" and therefore subject to Office of Management and Budget (OMB) review and the requirements of the EO. The EO defines "significant regulatory action" as one that is likely to result in a rule that may--(1) have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user transfer fees, or loan programs or the rights and obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in EO 12866. In accordance with the criteria in EO 12866, this rule is a significant regulatory action. OMB makes the final determination under EO 12866.

a. This proposed rule will not have an annual economic impact of over $100 million, but may adversely affect an economic sector, productivity, jobs, the environment, or other units of government. A complete analysis is available in "Alternative 3 – Socioeconomic Impacts" in the Draft Environmental Impact Statement for this proposed rulemaking.

Regulatory impact analysis requires the comparison of expected costs for each alternative against a "baseline," which typically reflects the regulatory requirements in existence prior to the rulemaking. The baseline being considered in this analysis assumes that the Service takes no regulatory actions to protect the manatee. In fact, existing requirements to protect the manatee do exist, and currently impose costs on the regulated community. We were not, however, able to monetize the current level of regulatory burden. Thus, the cost estimates presented below represent a conservative (i.e., more likely to overstate as opposed to understate) estimate of the costs of this rule. That is, the rule being proposed will, in some cases, result in the continuance of costs experienced in the past (i.e., no change in regulatory burden), in some cases a reduction in these costs (i.e., will reduce overall regulatory burden), and in some cases an increase in the current cost of regulation.

The purpose of this proposed rule is to authorize where appropriate the incidental, unintentional take of small numbers of Florida manatees resulting from government activities related to watercraft and watercraft access facilities in Florida. This rule may lead to actions designed to reduce the watercraft-related take of manatees, including designating and enforcing manatee protection areas, managing manatee habitat, and promoting manatee related research and education and outreach. The rule may also be associated with changes to permit review procedures. These actions are undertaken to protect and enhance Florida's manatee populations.

The associated economic impacts are due to the implementation of MMPA incidental take regulations and any ancillary changes in permit review procedures. The analysis estimates the economic impact for the five-year duration of the proposed rule for four Florida stocks of manatee: Northwest, Upper St. Johns, Atlantic, and Southwest. Under the proposed rule, incidental take of manatees would be authorized in the Northwest, Upper St. Johns and Atlantic stocks. As the level of take is already meeting the negligible standard in the Northwest and Upper St. Johns stocks, no mitigating measures would be required for these stocks. The only impacts in the Northwest and Upper St. Johns stocks would be related to increased administrative activities associated with issuing Letters of Authorization (LOAs). In order to authorize incidental take in the Atlantic Stock, some mitigating measures would be implemented. The socioeconomic impacts associated with these mitigating measures are likely to be minimal. However, the inability to authorize incidental take in the Southwest stock may continue the substantial economic effects of limiting the authorization and construction of boat docks, marinas, boat ramps, and other watercraft access facilities.

The economic effect of the proposed rule, including the economic effect associated with the inability to authorize incidental take under this rule for the Southwest stock and any associated changes in permit review procedures, will most likely be manifested in three ways. First, there will be a continuation of administrative costs associated with various manatee protection and management measures. Second, there will be a reduction in the economic value of some waterfront properties, reflecting the loss in opportunity for marine access associated with residential development. The effect will be borne by individual property owners (in terms of a reduction in the value of their asset), but it is equivalently a welfare loss to society, reflecting a reduction in the value of services potentially provided by coastal properties. This category of impact is estimated by considering available data on the difference in waterfront property prices for properties with marine access versus waterfront property without marine access. Third, there will be a reduction in the supply of marine access. This change in supply will be expressed in terms of fewer boat ramps, marina slips and residential slips than would exist in the baseline (i.e., in the absence of limitations on permitting of these facilities). The result of this reduction in marine access will be a price effect; that is, the cost of access to marine waters for all users will rise. This price impact will likely be felt by users in the form of higher rental rates for marina facilities, higher prices for commercial ramp facilities, longer wait times at ramp facilities, and/or the need for boaters to travel farther to obtain marine access. Because data do not exist to estimate these expected price effects, this analysis uses proxy measures of economic impact, by assuming that some boaters will choose not to boat in response to the change in marine access.

Because the analysis predicts the construction of fewer marine access facilities (residential docks, commercial marina slips, boat ramps), it is also expected that there would be a secondary effect in the form of a reduction in output (and jobs) in the marine construction sector from the level that would be expected in the baseline. In addition, because the analysis predicts fewer overall boating trips by Florida boaters, there will be a reduction in the economic output (and jobs) in industries that supply goods and services to marine boaters.

The economic impacts discussed in this analysis are incurred due to restricting permits on marine access facilities the in the Southwest stock. Based on analysis of historical permitting activities, we assume that the Service will not concur with 37 percent of permit applications for development activities (i.e., boat docks, marinas, boat ramps) in manatee habitat areas in the Southwest stock. Associated costs are due to (1) continued administration of manatee protection programs, (2) diminishment of recreational boating opportunities due to limits on access to the water, (3) reduced waterfront property values, (4) decreased recreational boating expenditures, and (5) reduced marine construction. The impacts include both economic efficiency (i.e., social welfare) changes and distributional impacts (i.e., changes in regional economic performance, in the form of reductions in economic output and jobs from the baseline). All impacts are summarized in Tables 1 and 2.

Table 1. Summary of Efficiency (Economic Surplus) Losses (millions of 2001 dollars)

	Nominal Impacts					**Discounted Impacts**		
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Present Value Total 3%**	**Present Value Total 7%**	**Annua-lized 7%**
Northwest	$0	$0	$0	$0	$0	$0	$0	$0
Upper St. Johns	$0	$0	$0	$0	$0	$0	$0	$0
Atlantic	$0	$0	$0	$0	$0	$0	$0	$0
Southwest	$18 - $25	$20 - $35	$21 - $44	$23 - $53	$25 - $62	$97 - $198	$87 - $175	$21 - $43
Subtotal	**$18 - $25**	**$20 - $35**	**$21 - $44**	**$23 - $53**	**$25 - $62**	**$97 - $198**	**$87 - $175**	**$21 - $43**
Adminis-trative Costs[a]	$10	$10	$10	$10	$10	$ 48	$ 43	$10

[a] Sufficient data do not exist to allow administrative costs to be reported by stock.

Table 2. Summary of Distributional (Regional Economic Effects) Impacts (millions of 2001 dollars)

	Nominal Impacts				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**

Northwest Reduction in economic output	$00-$00	$00-$00	$00-$00	$00-$00	$00-$00
Reduction in jobs	*0*	*0*	*0*	*0*	*0*
Upper St. Johns Reduction in economic output	$00-$00	$00-$00	$00-$00	$00-$00	$00-$00
Reduction in jobs	*0*	*0*	*0*	*0*	*0*
Atlantic Reduction in economic output	$00-$00	$00-$00	$00-$00	$00-$00	$00-$00
Reduction in jobs	*0*	*0*	*0*	*0*	*0*
Southwest Reduction in economic output	$14 - $24	$15 - $36	$17 - $47	$18 - $59	$20 - $70
Reduction in jobs	*147*	*170*	*193*	*217*	*240*
Subtotal Reduction in economic output	$14 - $24	$15 - $36	$17 - $47	$18 - $59	$20 - $70
Reduction in jobs	*147*	*170*	*193*	*217*	*240*

[a] Distributional impact estimates reflect the expected change in regional economic output and jobs; these measures should not be summed with reported efficiency (surplus) effects, but viewed as separate measures of economic impact.

The inability to authorize incidental take for the Southwest stock under the proposed rule is expected to result in present value economic surplus losses of approximately $87 to $175 million over five years (assuming a seven percent discount rate), or $21 to $43 million per year (annualized to 2001). Between 40 and 75 percent of these losses are associated with the expected reduction in waterfront property values. The principal source of uncertainty in these estimates is the lack of a model to estimate boaters' responses to a change in the supply of marine access facilities.

In addition, it is expected that the inability to authorize incidental take for the Southwest stock under the proposed rule will result in a reduction in economic output and employment in each of the five years. The impact ranges from approximately $14-$24 million and 147 jobs in year one, to approximately $20-$70 million and 240 jobs in year five. The majority of the reduction in economic output in year five is associated with a decrease in recreational boating trips in the Southwest region, in the high end estimate. Again, the principal source of uncertainty in these estimates is the lack of information on the likely behavior of marine boaters in response to a change in the supply of marine access.

It is important to recognize the uncertainty inherent in the assumptions underlying this analysis. There are a number of factors that may lead this analysis to under- or overestimate economic losses. In addition to the sources of uncertainty discussed above, we may understate economic losses based on the following assumptions.

- The analysis does not account for growth in Florida boaters who register their boats out-of-state.

- Historical residential permitting rates are assumed to continue into the future. This assumption may lead us to understate economic losses resulting from permitting restrictions associated with the inability to authorize incidental take for the Southwest stock.

In addition, we may overstate economic losses, for the following reasons.

- The analysis assumes demand for watercraft access facilities is not going to be met in certain areas due to permitting restrictions associated with the inability to authorize incidental take for the Southwest stock under the rule (i.e., that there is no excess marina and boat ramp capacity currently). These assumptions may lead us to overstate economic losses.

- The model used to estimate regional economic impacts is a static model, and thus does not account for adjustments by the economy following regulatory or other changes. That is, this model measures the effects of a specific policy change at one point in time. Over the long-run, the economic losses predicted by the model may be overstated as adjustments such as re-employment of displaced workers

occurs.

- The analysis calculates surplus loss for residential property owners who are unable to build a dock on their property, as well as surplus losses associated with property value impacts. This may result in some degree of double counting of regulatory costs.

In addition to the caveats noted above, our analysis does not take into account any economic benefits. For example, there may be economic benefits related to reduced congestion on the water and avoided costs for maintaining shoreline protection.

Administrative Costs. Administrative costs statewide over the next five years are associated with the development and enforcement of manatee protection areas ($19 million), agency administrative efforts ($15 million), education and outreach ($3 million), permitting efforts ($4 million), and additional impacts ($11 million). These would be costs incurred by Federal, State and other agencies.

Efficiency (Economic Surplus) Losses. The inability to authorize incidental take for the Southwest stock may limit authorization and construction of watercraft access facilities, causing economic impacts to waterfront property owners by impacting recreational boating activities and waterfront property values. Some homeowners who would otherwise have constructed residential dock facilities on their properties in the Southwest stock will be unable to obtain required permits, thus affecting their recreational boating activities and their property values. Recreational boating will be impacted based upon the assumption that these homeowners would instead rent slips at an existing marina facility. Welfare losses incurred by waterfront homeowners are associated with marina rentals and the time and effort spent to travel to the marina. We estimate that, cumulatively over the five-year period, unmet residential slip demand would result in demand for 10,600 marina slip rentals in the Southwest region. Using the range of annual wet and dry marina slip rental costs (from $1,500 to $4,600 per slip per year) yields a five-year welfare loss between $13 to $38 million (2001 dollars with a seven percent discount rate).

The inability to authorize incidental take for the Southwest stock under the proposed rule would also impact property values for some waterfront property owners. Property owners who would otherwise have been able to construct residential docking facilities would experience a reduction in their property's value. To estimate this loss, we assume that a residential boat slip adds approximately $68,000 to the value of a waterfront property in Florida. Using the number of waterfront property owners that would not be able to construct a residential slip (236 annually), we estimate the economic cost to be $66 million over five years (2001 dollars with a seven percent discount rate).

Existing data indicates that marina facilities currently have capacity to handle some increase in slip rental demand without new construction, but this capacity will not address all of

the expected demand for slips over the five-year period of the rule. Thus, boat owners who otherwise would utilize marina facilities or boat launches may be unable to access these facilities. This analysis assumes that, as demand for watercraft access increases, some boaters will be unable to obtain access, and thus the total number of boat trips originating from marinas will decrease. To estimate welfare losses to these boaters over the five-year period, we apply the willingness to pay for a boating day ($40), multiplied by the cumulative future unmet marina slip demand (i.e., 4,500 slips) and the average number of boating trips taken per year (60 trips/year). Discounting these figures using a seven percent discount rate, the welfare loss over the five-year period is estimated to be $8 million (2001 dollars).

Due to the inability to authorize incidental take for the Southwest stock under the proposed rule, it is assumed that the Service would not concur with 37 percent of permit applications for the construction of new boat ramps, resulting in an increased demand for existing boat ramp facilities. This demand for existing boat ramp facilities in the Southwest region will likely exceed supply in the next five years. As boat ramp congestion increases over time, boaters may decide not to use a boat ramp to launch their vessel, and may choose to refrain from boating. Similar to our estimate of losses to marina users, we estimate welfare losses to boat ramp users based on information on projected growth in boat ramp usage, and estimates of boating values and boating trips per year. Because we lack data on boat ramp capacity, we provide a range of surplus loss estimates based on assumptions about the lost number of boating trips attributable to the proposed rule. The low end is zero while the high-end represents the maximum possible surplus loss by assuming that some boat ramp users (equal to the number to newly registered boats expected to use ramps) choose not to participate in boating activities. This high end assumption likely overestimates the actual surplus losses. Applying the value for a day of boating ($40) to the five-year cumulative reduction in boat ramp trips (ranging between zero and two million), we estimate the welfare loss for boat ramp users for the Southwest region. When these figures are discounted using a seven percent discount rate, the welfare loss over the five-year period ranges from $0 to $62 million (2001 dollars).

Marine Industry Impacts. The inability to authorize incidental take for the Southwest stock under the proposed rule would likely lead to two categories of indirect impacts. First, a loss of marine access points would result in a decrease in recreational boat trips for marina users and boat ramp users. This decrease in boating activity may lead to a reduction in expenditures related to recreational boating. Second, a limit on the authorization and construction of such facilities as boat docks, marinas, and boat ramps is likely to result in a reduction in the demand for marine construction services.

This analysis assumes that the inability to authorize incidental take for the Southwest stock under the proposed rule will lead to a reduction in recreational boating activity, equal to 132,000 trips accumulating per year from boat ramps and 18,000 trips accumulating per year from marina slips. The decrease in trips from boat ramp users will result in an estimated annual decrease in direct expenditures ranging from $6 million in year one to $32 million in year five, and a regional economic impact ranging from $10 million in year one to $51 million in year five.

The decrease in trips from marina slip users will result in an estimated annual decrease in direct expenditures ranging from $1 million in year one to $4.3 million in year five, and a regional economic impact ranging from $1 million in year one and $7 million in year five for marina slip users (2001 dollars).

In addition to impacts from reduced recreational boating activity, marine industry would also be impacted by the reduced demand for marine construction. Applying the cost of building docks, marina slips, and boat ramps to the projected unmet demand for these marine access facilities in the Southwest stock, we estimate the total revenue likely to be lost to the marine construction industry to be $7 million annually. This decrease in marine construction would lead to a regional impact of $13 million annually for five years.

b. This rule will not create inconsistencies with other agencies' actions. The Service will continue to work with State and local agencies to monitor and evaluate the need for incidental take regulations. The Service recognizes the important role of State and local partners, and the Service continues to support and encourage State and local measures to improve manatee protection. Furthermore, the Service will be able to issue LOAs covering agency activities in the Northwest, Upper St. Johns, and Atlantic stocks. The application process will likely only cause minimal impacts on applicant agencies.

c. This rule will not materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients. There are restrictions to existing human uses of the proposed sites as a result of this rule, but the restriction is not expected to have a material effect.

d. This rule will not raise novel legal or policy issues. This proposed action will reduce the need for enforcement actions to prevent the takings of manatees by harassment resulting form human-related waterborne activities in the Northwest, Upper St. John, and Atlantic stocks. Within the Southwest stocks, there will be a lack of incidental take regulations. However, property owners already experience a variety of county and Federal development restrictions due to numerous other regulations including: the Endangered Species Act, National Historic Preservation Act, Coastal Zone Management Act, Magnuson-Stevens Fishery Management and Conservation Act, Fish and Wildlife Coordination Act, and the Marine Mammal Protection Act.

Regulatory Flexibility Act

Under the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 et seq., as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. A "substantial number" of small entities is more than 20 percent of those small entities

affected by the regulation, out of the total universe of small entities in the industry or, if appropriate, industry segment.

SBREFA amended the RFA to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities. SBREFA also amended the RFA to require a certification statement. According to the Small Business Administration, small entities include small organizations, such as independent nonprofit organizations, and small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents, as well as small businesses (13 CFR part 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than $5 million in annual sales, general and heavy construction businesses with less than $27.5 million in annual business, special trade contractors doing less than $11.5 million in annual business, and agricultural businesses with annual sales less than $750,000.

We certify that this rule would not have a significant economic effect on a substantial number of small entities as defined under the RFA Act (5 USC 601 et. seq.). A Regulatory Flexibility Analysis is not required. Accordingly, a Small Entity Compliance Guide is not required.

Marine Recreation Impacts. As noted in the previous section, reduced recreational boat trips could lead to an estimated $4 to $36 million decrease in direct expenditures, which would yield a regional economic impact to the Southwest stock between $7 to $58 million annually for five years. Expenditures that would be affected would be for food and lodging, transportation, and other incidental expenses. The table below describes the total business activity for these sectors in the Southwest stock. Sales in these sectors total to $7 billion. Pinellas and Hillsborough counties account for the largest proportion of the sales while Glades and De Soto counties account for the smallest proportion. The decreased recreational boating expenditures ($4 to $36 million) would represent less than one percent of the region's total sales in these sectors.

Table 3. Affected Establishments in the Affected Counties in Florida - 1997 (includes NAICS codes 451 and 72) 1/

Counties	Total Sales (thousands of 2001 dollars)	Total Establishments	Establishments with less than 10 employees
Southwest	$6,842,646	8,271	4,699
Manatee	$298,331	438	255
Sarasota	$593,332	798	441
Pasco	$302,965	495	307
Pinellas	$1,727,750	2,233	1,314
Hillsborough	$1,574,791	1,774	939

Counties	Total Sales (thousands of 2001 dollars)	Total Establishments	Establishments with less than 10 employees
Lee	$844,625	934	517
Collier	$649,629	603	353
Charlotte	$155,756	252	138
De Soto	$13,335	35	18
Glades	$5,047	20	14
Hendry	$19,781	48	33
Monroe	$657,304	641	370

Source: U.S. Census Bureau, 1997
1/ NAICS 451 - Sporting Goods
NAICS 72 - Food and Accommodation

Marine Construction Impacts. In 1997, Construction in Building, Developing, and General Contracting (NAICS 233) in Florida accounted for $25.5 billion (1997 $) in gross sales, 10,130 establishments, and 77,238 employees[1]. Because county-level data is not published for Construction, it is difficult to assess the direct effect on individual businesses due to decreased marine construction. However, using IMPLAN, we can calculate the change in net employment (Table 4). The impact in the Southwest stock would be a reduction of approximately $13 million in economic activity, which would result in a reduction of approximately 123 jobs. Within the construction sector, the decrease in the Southwest stock represents less than one percent of gross sales and less than one percent of employees in the State of Florida.

Table 4. Annual Regional Economic Impact of a Reduction in Boat Dock, Marina, and Slip Construction Expenditures on Southwest Stock

	Decrease in Regional Output (millions of 2001 dollars)	Decrease in Regional Employment (persons)
Initial Expenditures	$6.9	46
Indirect Impact	$2.9	37
Induced Impact	$2.8	40
Total Impact	$12.6	123

Small Business Regulatory Enforcement Fairness Act

[1]Source: U.S. Census Bureau

This proposed rule is not a major rule under 5 U.S.C. 804(2), the Small Business Regulatory Enforcement Fairness Act. This proposed rule:

a. Will not have a significant impact on a substantial number of small entities. As shown above, the inability to authorize incidental take for the Southwest stock under this proposed rule may decrease recreational boating expenditures and marine construction with a direct impact estimated between $11 to $43 million per year (2001 dollars), resulting in a total regional economic impact between $20 to $70 million per year. The cost of the inability to authorize incidental take for the Southwest stock under this rule for businesses both small and large would be dispersed across Southwest Florida. The Small Business Administration defines a "small business" as one with annual revenue that meets or is below the established size standard, which is $29 million for NAICS 23 Construction, $6 million for NAICS 451 Sporting Goods, and $6 million NAICS 72 Food and Accommodation. An unknown portion of the establishments shown in Table 3 could be affected by this rule. In Table 3, over half of the establishments have less than 10 employees. If the expenditure impact ($11 to $43 million) were evenly distributed across the affected establishments, gross sales at each would reduced by up to $9,200. If an establishment has gross sales of $500,000, the inability to authorize incidental take for the Southwest stock under this proposed rule would impact the gross sales by just 1.8 percent. Thus, we do not expect the impact to be significant.

b. Will not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions. It is unlikely that there are unforseen changes in costs or prices for consumers stemming from this proposed rule. This proposed rule will have an effect on the costs of recreational boating. However, the Service believes that it is unlikely that an increased cost of slip rentals or boat ramps will result in a significant economic effect. Based on an analysis of public comment, further refinement of the impact on this industry may be possible.

c. Does not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S. based enterprises to compete with foreign-based enterprises. As stated above, the inability to authorize incidental take for the Southwest stock under this proposed rule may result in a loss of jobs due to decreased marine construction. The total impact would be less than a one percent job reduction in Florida's construction sector.

Energy Supply, Distribution or Use (EO 13211)

On May 18, 2001, the President issued EO 13211 on regulations that significantly affect energy supply, distribution, and use. EO 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions.

In accordance with EO 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," the Service asserts that this rule is not likely to have a significant adverse effect on the supply, distribution or use of energy. This rulemaking to

authorize incidental and unintentional take of Florida manatees by U.S. citizens engaged in specific activities within certain geographic areas, does not impact the Nation's energy resources. This rulemaking does not affect areas having oil or gas reserves, whether in production or otherwise identified for future use.

Unfunded Mandates Reform Act

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.), this rule will not ``significantly or uniquely'' affect small governments. A Small Government Agency Plan is not required. The development of incidental, unintentional take regulations for government activities related to watercraft and watercraft access facilities within certain geographic areas of the species' range in Florida for a period of not more than five years, pursuant to the MMPA, imposes no new obligations on State or local governments.

Takings

In accordance with EO 12630 ("Government Actions and Interference with Constitutionally Protected Private Property Rights"), this rule does not have significant takings implications. A takings implication assessment is not required. Any property owners will have navigational access and the opportunity to maintain property.

Federalism

In accordance with EO 13132, this rule does not have significant Federalism effects, therefore a Federalism assessment is not required. This rule does not require or mandate the State or any other government entities to apply for an LOA; therefore, it will not have substantial direct effects on the State, in the relationship between the Federal Government and the State, or on the distribution of power and responsibilities among the various levels of government. As discussed earlier, and in keeping with Department of the Interior policies, we coordinated with the State of Florida to the extent possible on the development of this proposed rule.

Civil Justice Reform

In accordance with EO 12988, the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are proposing to develop incidental, unintentional take regulations for government activities related to the operation of watercraft and watercraft access facilities within certain geographic areas of the species' range in Florida for a period of not more than five years, pursuant to the MMPA.

Paperwork Reduction Act of 1995

This rule does not contain any information collection requirements for which Office of

Management and Budget approval under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.) is required because we do not anticipate that more than ten agencies would apply for an LOA.

National Environmental Policy Act

The Service has determined that it is necessary to prepare an Environmental Impact Statement as defined by the National Environmental Policy Act of 1969 (NEPA). On June 10, 2002 (67 FR 39668), the Service announced intent to prepare an EIS to evaluate the effects of authorizing the incidental, unintentional take of small numbers of Florida manatees within certain regions of Florida. Pursuant to the MMPA, the Service is in the process of developing incidental take regulations for government activities related to the operation of watercraft and watercraft access facilities within three geographic areas of the species' range in Florida for a period of not more than five years. The public comment period on the notice of intent to prepare an EIS ended on July 25, 2002.

Endangered Species Act

We will be conducting an intra-service consultation under section 7 of the ESA on this action. The consultation will be concluded prior to a determination on issuance of a final rule.

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951), EO 13175, and the Department of Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. We have determined that there are no tribal lands essential for the conservation of the Florida manatee; therefore, proposing to develop incidental take regulations for government activities related to the operation of watercraft within certain areas of the species' range in Florida, will not adversely affect Tribal lands.

Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The purpose of EO 12906, signed on April 11, 1994, is to bring attention to the need for accurate geographic information. This information is critical to promote economic development, improve stewardship of natural resources, and protect the environment. Modern technology now permits improved acquisition, distribution, and utilization of geographic (or geospatial) data and mapping.

The National Performance Review has recommended that the executive branch develop, in cooperation with State, local, and tribal governments, and the private sector, a coordinated

National Spatial Data Infrastructure to support public and private sector applications of geospatial data in such areas as transportation, community development, agriculture, emergency response, environmental management, and information technology. The Federal Geographic Data Committee, established by the Office of Management and Budget and chaired by the Secretary of the Department of the Interior or the Secretary's designee, shall coordinate the Federal Government's development of the National Spatial Data Infrastructure.

References Cited

A complete list of all references cited in this proposed rule is available upon request from the Jacksonville Field Office (see ADDRESSES section).

Author

The primary authors of this document are Pete Benjamin (904/232-2580, extension 106), and Stefanie Barrett (904/232-2580, extension 114), (see ADDRESSES section).

Authority

The authority to establish regulations that would authorize for the next five years the incidental, unintentional take of small numbers of Florida manatees is provided by the Marine Mammal Protection Act of 1972 (16 U.S.C. 1361-1407), as amended.

List of Subjects in 50 CFR Part 18

Administrative practice and procedure, Alaska, Imports, Indians, Marine mammals, Oil and gas exploration, Reporting and recordkeeping requirements, and Transportation.

Proposed Regulation Promulgation

Accordingly, we propose to amend part 18, subchapter B of chapter 1, title 50 of the Code of Federal Regulations as follows.

PART 18--MARINE MAMMALS

1. The authority citation for part 18 continues to read as follows:

Authority: 16 U.S.C. 1361 et seq..

2. Add subpart K to read as follows:

Subpart K– Taking of Florida Manatees Incidental to Government Activities Related to Watercraft Operations and Watercraft Access Facilities in Florida.

Subpart K– Taking of Florida Manatees Incidental to Government Activities Related to Watercraft Operations and Watercraft Access Facilities in Florida.

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§18.131 What specified activities does this subpart cover?

This subpart applies to the incidental, but not intentional, take of small numbers of Florida manatees by Federal, State, and local government agencies engaged in activities related to the authorization, regulation, or operation of watercraft or watercraft access facilities.

§18.132 In what specified geographic region does this subpart apply?

(a) This subpart applies to the specified geographic area for three stocks of manatees within the state of Florida:

(1) The Northwest Stock, consisting of the counties along the Gulf of Mexico from Escambia County east and south to Hernando County; Lafayette and Gilchrist counties; and Marion County adjacent to the Withlacoochee River;

(2) The Upper St. Johns River Stock, consisting of Putnam County from Palatka south; Volusia, Flagler, and Marion counties adjacent to the St. Johns River or its tributaries; and Lake and Seminole counties; and

(3) The Atlantic Stock, consisting of counties along the Atlantic coast from Nassau County south to Miami-Dade County; the portion of Monroe County adjacent to the Florida Bay and the Florida Keys; Okeechobee County; and counties along the lower portion of the St. Johns River north of Palatka, which includes Putnam, St Johns, Clay, and Duval counties.

(b) A fourth region, the Southwest Stock, is excluded from this subpart. The Southwest Stock consists of the counties along the Gulf of Mexico from Pasco County south to Whitewater Bay in Monroe County; and DeSoto, Glades, and Hendry counties.

§18.133 When is this subpart effective?

This subpart is effective from [insert date 120 days after date of publication of final rule in the Federal Register] through [insert date five years from the effective date] for government agencies engaged in activities related to the authorization, regulation, or operation of watercraft or watercraft access facilities.

§18.134 Who can obtain a Letter of Authorization?

(a) Federal, State, or local agencies are eligible to apply for a Letter of Authorization.

(b) You should apply for a Letter of Authorization if you are conducting activities that:

(1) Are related to the authorization, regulation, or operation of watercraft or watercraft access facilities in the specified geographic area described in §18.132; and

(2) May cause the taking of a Florida manatee.

(c) You must submit an application for a Letter of Authorization to our Jacksonville Field Office at least 90 days before the start of the proposed activity.

(d) Your application for a Letter of Authorization must include the following information:

(1) A description of the specific activity or class of activities;

(2) The dates and duration of the activity and the specific geographic region where it will occur;

(3) The anticipated impact of the activity on manatees;

(4) The anticipated impact of the activity on manatee habitat and the likelihood of restoration of the affected habitat;

(5) The anticipated impact to manatees from the loss or modification of habitat;

(6) The availability and feasibility (economic and technological) of using equipment, methods, and other manner of conducting the activity or other means of effecting the least practicable adverse impact on the manatee and its habitat;

(7) Suggested means of accomplishing the necessary monitoring and reporting; and

(8) Suggested means of encouraging and coordinating research opportunities, plans, and activities to reduce incidental take.

(e) We will evaluate each request for a Letter of Authorization based on the specific activity and the specific geographic location. Each Letter of Authorization will identify allowable conditions or methods that are specific to the activity and location.

§18.135 What criteria does FWS use to evaluate Letter of Authorization requests?

We will evaluate your request for a Letter of Authorization using the standards in this section.

(a) We will determine whether the level of activity you are requesting exceeds the level that we consider to have a negligible impact on the stock. If the level you are requesting is greater, we will re-evaluate our findings to determine if those findings continue to be appropriate based on the greater level of activity. Depending on the results of the evaluation, we may grant the authorization as requested, add further conditions, or deny the authorization.

(b) In accordance with §18.27(f)(5), we will make decisions concerning withdrawals or suspensions of Letters of Authorization, either on an individual or class basis, only after notice and opportunity for public comment.

(c) The requirement for notice and public comment in §18.135(b) will not apply if we determine that an emergency exists that poses a significant risk to the well-being of the stock.

§18.136 What does a Letter of Authorization allow?

(a) Your Letter of Authorization will vary depending upon what you request in your application. Your Letter will allow the incidental, but not intentional, take of Florida manatees when you are carrying out one or more of the following activities within one of the specified geographic regions defined in §18.132:

(1) Regulating watercraft operation, including government programs responsible for regulating watercraft speed zones and restricted access areas for manatee protection, programs

authorizing access or operation of watercraft, and programs authorizing marine events (e.g., high-speed races, parades, etc.);

(2) Authorizing or regulating the location and construction of watercraft access facilities, including boat ramps, marinas, private and public boat docks, and other structures providing watercraft access to waters inhabited by manatees;

(3) Financing, in whole or in part, construction of watercraft access facilities;

(4) Operating government-owned or controlled facilities that provide watercraft access; and

(5) Operating government-owned or controlled watercraft for official government business other than that covered under §18.22(a).

(b) You must conduct methods and activities identified in your Letter of Authorization in a manner that minimizes, to the greatest extent practicable, adverse impacts on Florida manatees and their habitat.

(c) Each Letter of Authorization will identify allowable conditions or methods that are specific to the activity and location.

§18.137 What activities are prohibited?

(a) You must not intentionally take Florida manatees under this subpart.

(b) Letters of Authorization do not authorize any take that does not comply with the terms and conditions of this subpart or the terms of the relevant Letter of Authorization.

(c) This subpart does not authorize the incidental take of Florida manatees during the illegal or reckless operation of watercraft or unauthorized construction of watercraft access facilities.

§18.138 What monitoring and reporting requirements must I meet?

(a) Holders of Letters of Authorization must cooperate with us and other designated agencies to monitor the impacts of activities related to watercraft operation and watercraft access facilities on Florida manatees.

(b) Holders of Letters of Authorization must designate a qualified individual or individuals to observe, record, and report the effects of their activities on Florida manatees.

Date: November 5, 2002

Paul Hoffman
Acting Assistant Secretary for Fish and Wildlife and Parks

Billing Code 4310-55